THE

AMERICAN

BEE JOURNAL.

FOR THE YEAR 1875.

"——— To Us, both field and grove,
Garden and orchard, lawn and flowery mead,
The blue-vein'd violet, rich columbine,
The wanton cowslip, daisies in their prime,
With all the choicest blossoms of the lea,
Are free allowed and given."—PARLIAMENT OF BEES, JOHN DAY, 1607.

VOLUME XI.

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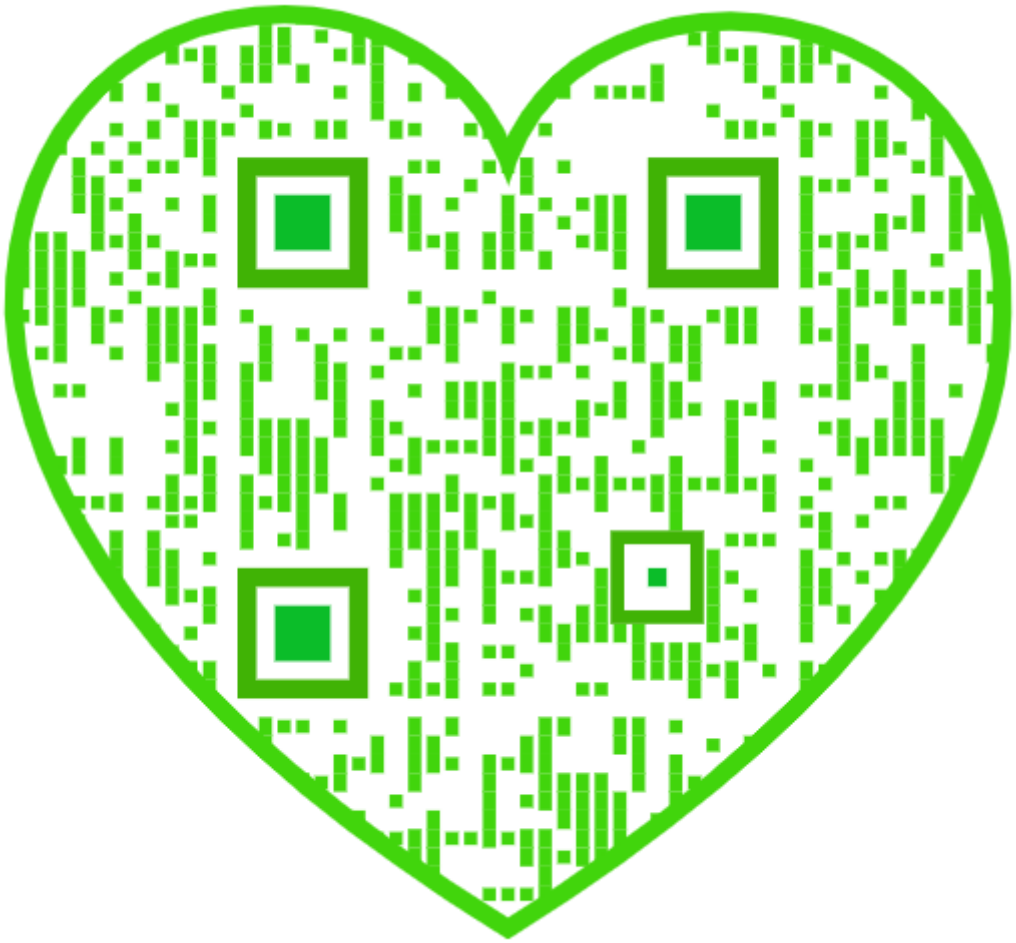

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CEDAR RAPIDS, JANUARY, 1875. No. 1.

American Bee Journal.

W. F. CLARKE, Mrs. E. S. TUPPER, } EDITORS.

Bees and Flowers at Sydenham.

The following interesting paper is from the editorial columns of *The Farmer*, (English), of September 14th, 1874:

Tuesday was the first day of the exhibition held by the British Bee-Keeper's Association. The attendance at the Crystal Palace shewed that the bees, the botanical show, and the revived comedy of *Wild Oats*, in which Mr. Lionel Brough appeared, could draw a numerous crowd to Sydenham even in September. Suburban masters who keep bees, as they plant flowers, for the graceful adornment of their leisure, were present in numbers. The Beekeeper's Association proposes to its members this mission, and in one particular it specially recommends the co-operation of neighbours or the assistance of superiors. A honey-extractor is the most expensive machine in the beekeepers' plant. It is usually dispensed with, and the consequence is that from certain combs very pure virgin honey is got by the slow progress of straining; from others nothing can be obtained without relentless crushing of the cells, and the consequent vitiation of the honey by wax, bee-bread, and the bodies of undeveloped bees. The cheapest honey-extractor priced in the Association's catalogues is £2, 10s., and it is fair to presume that the best, which obtained the prize, and has no price affixed to it, is dearer. In a few minutes the extractor empties all the combs of the hive, and therefore it is not necessary for every cottager to keep one. But the village might subscribe for one, or some benevolent person might lend it. Lady Burdett-Coutts has already led the way in supplying swarms of bees gratuitously to labouring people on the sole condition that they shall pass on a swarm to their neighbours when the profitable insects increase after their kind.

The principal apiarian operation of which examples were given by Mr. Abbott and Mr. Cheshire, and explained by Mr. Hunter, Mr. Hooker, Mr. Symington, and other members of the Provincial Committee, was the driving of bees, which includes a great many minor processes. A few puffs from a pipe caused the bees to retreat among the combs, and the hive was then gently inverted. Above it the new and empty hive was placed with its open end towards the former base of the inverted hive. Then the chief bee-master drummed with his fists upon the lower hive and waited for the rush. At the first disturbance the provident creatures, always (though their life in summer is but six weeks) in fear of a poverty-stricken old age, had hastened to fill their bags with honey. Thus they were heavy and good-tempered, and those who escaped through the gap between the two hives forbore to sting the unprotected face and hands of the bee-masters. In a few minutes a rushing sound was heard, the bees had begun the ascent; the queen passed up, the remainder was sure to follow her. It was now safe to incline the top hive backwards so that the spectators could see what was passing idside. Like soldiers swarming up the walls of a beleaguered city the bees were observed hurrying up in thousands, climbing over each other's bodies several deep, without paying the least attention to the facilities for escape which the open hive gave them. Then the combs were taken out of the old and deserted hive and put in frames into the "slinger" or extractor. A handle is turned and the comb flies rapidily round. Centrifugal action drives out all the honey from the cells; it drops to the bottom of the vessel, and passes thence into the jar placed to collect it. The next thing is to tie up with tape the old combs, some emptied of their honey, some remaining full, in new frames and to place them in the new hive. In twenty-four hours, or, at most, in forty-eight, the fastenings of the tape will become unnecessary, for the bees with cement and wax will have built the combs into the new frames and

will quickly proceed to fill them with honey. By thus making use a second time of the old combs the time of the bees is saved; and they give to honey-making precious days of summer which would otherwise be devoted to the building up of fresh waxen cells. The whole process which we have described lasted less than an hour.

The stationary exhibition of the association was scarcely less interesting. There were some bees here, but they were imprisoned closely within their glass house or observatory hive. Mr. C. W. Smith exhibited, and obtained a prize for, the most beautiful breed of Ligurian bees a queen accompanied by her progeny. There are fifty different kind of bees known to exhibitors, but the bee of the Maritime Alps which gained this prize is the most highly valued of all for its fine appearance, good temper, and reproductiveness. It is the "yellow-banded bee," of Tennyson, and is used to improve the strain of the common black bee. There are also exhibited here, the detatched glass frames following each other like the leaves of a book, the frame hives as originally constructed by Francis Huber. The blind naturalist flourished at Geneva in the last century, and all his experiments were made with the eyes and hands of his assistant, Burnens, guided by the master's judgment. The frame is the key-stone of modern hive-building. The whole show is the development of the discovery of Huber. In the modern hives, bars of wood are laid across the top of a box, little slits are made in the lower side of the bars. In these slits wax is inserted. When the bees are admitted they find the wax, attach their combs to it, and these are thenceforth formed in straight lines, and are thus more convenient for the use and observation of man than the spoke-like and irregular arrangements which otherwise are made by the insects. Mr. F. Cheshire took the prize for the best hive frame with moveable combs. For the best cottager's hive on the modern principle the prize was awarded to the untiring Mr. Abbott's 3s. hive. Mr. J. Lee gained another prize in this class for a tall and handsome house of three stories, each story forming a super to the stock hive, or a new stock hive. There were in these classes innumerable ingenious combinations of detail and whimsical varieties of pattern. The bars are kept apart by pins in some hives, by notches in others. Some hives are made to imitate houses, others are like iron safes. One is a humble imitation of the great Palace of human industry and amusement in which it is exhibited.

The "run" honey which was shewn, varied in colour from the purest shade of primrose yellow to the darkest brown. It is well known that the hue depends upon the food of the bee, white clover producing a comb as white as snow, and primrose honey, while hives which stand near the sycamore will give a fluid as dark as punch. Mr. A. Ferguson, whose bees feed probably upon the clover fields of Ayr, the Hon. and Rev. H. Bligh, of Henley-on-Thames, and Mr. Abbott tied for the largest and best harvest of one stock of bees. The Rev. G. Raynor had the best exhibition of super honey from one apiary. The weight is not declared, but Mr. W. B. Carr competed in this class with a gross weight declared by him to be about 100 lb. Mrs. W. H. Clark exhibited the best straw super, probably about 40 lb, In a similar class the prize was taken by Mrs. Pagden, widow of the Sussex bee-master, who has told how he made £70 a year by his bees. In similar classes the name occurs of Mr. Cowan, who recently informed us that he had 700 lb of honey in the season from twelve stocks of bees; and we are struck with the frequent reptition of the name of Anderson, an Ayrshire family, one of whom came up from the neighbourhood of Stewarton, of honeyed fame, with thirty-four specimens of his own and neighbours' growth, and lost not one super by breakage or otherwise in all that journey.

In the cottagers' classes, open only to those who work for daily hire, there were twenty-two entries, and Mr. Withnal, Mr. Ferguson, and Mr. W. Martin were the most successful exhibitors. Mr. Cheshire obtained extra prizes for several ingenious inventions. With five pins he formed a little trap for keeping bees out of a hive where they are no longer wanted. The pin bisects the little hole left for egress, making a valve which may be lifted on going out but bars all return. There is a drone trap of different construction. Another invention is a nucleus hive. Where a queen is desired for adding to the stock, Mr. Cheshire puts in the hive a bar which can double up. When brood cells are attached to the bar he takes it out, and puts it into the nucleus hive. The bees transferred find themselves without a queen, and set to work to feed and house one of the young in such a way that it develops into a queen fit to fly abroad and become the mother of many bees.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the nine volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum.

Notes and Queries

I wish you to answer through the JOURNAL if I had not better put my Italian colonies in hives with open bottoms; then in early spring, set them on other hives filled with empty combs, and have them work down through them. I use a double-hive, similar to the Langstroth. Will that not be the best and easiest way to have access to early brood, for queen raising, and disturb the arrangement of the colony less, than any other way? S. EMMONS.

Pottawattamie, Kan.

The way you speak of has been tried often in our own apiary, but we do not recommend it as being a good plan in early spring. Instead of that, we would keep the hive as tight and close as possible, with quilt, carpet, or mats on the top of the frames. As fast as two frames are tolerably well filled with brood, move them far enough apart to admit of placing an empty comb between the two, and repeat this in a few days. If a colony has a prolific queen and plenty of honey and bee bread, they will increase very rapidly in brood, if managed in this way. Later in the season a comb full of unsealed brood may be taken away every three days, and yet the colony keep strong.

After the weather is warm, if you do not care to have swarms, you can put a hive filled with comb under another hive to good advantage. We have had both hives in this way, filled with brood in July, and secured large amounts of box honey from them.

MRS. E. S. TUPPER:—I read in the proceedings of the Annual meeting of the Bee-Keepers' Society, that you have said that there is danger, in importing, of getting a taint of black stock; as they may have mixed some of the Egyptian blood; as I am just now holding, in the bee world, that there are no hybrid bees in Italy. I would be glad to know whether you have ever received tainted queens from Italy, and the name and address of the bee-keeper who sent them. Hoping to receive an answer from you, I am respectfully,

CH. DADANT.

We said no such thing as is reported of us at the convention. During the remarks on that point some one asked if the impurities which Mr. King and others were complaining about, might not be caused by a cross with the Egyptian instead of the black bee. We replied that it was not probable, as we had never heard that Egyptian bees had been at any time taken to Italy. Our remarks were all directed to the importance of taking more pains with the stock we have already brought from Italy, and keeping it pure, while it would be improved by the influence of climate and new pasturage—the same as experience demonstrates, cattle, sheep and horses are improved.

Which is the best and cheapest mode of transportation, express, freight, or mail? Some bees have been received here by mail, all right. I suppose that is the cheapest way—cheaper to feed them than to have the whole hive sent by express. Is this idea correct? Is it fully settled that the Italians are the best bees on all accounts?

Colorado. N. A. B.

We are sure you are mistaken about "colonies of bees being sent by mail." It cannot be done. Queens with a few bees accompanying them are often sent by mail safely, and it is perhaps as good a way as any to send them, if it can be made lawful to send them. At present the rules of the Post-office department forbid it. We have sent bees to Colorado safely, both by freight and express. If only one hive is sent at a time it would go better by express. If a number are sent together we would quite as soon risk them by freight.

It is fully settled by the vote of a large majority of those who have tried both varieties, that the Italians are best on all accounts.

As nearly as I can come at it, there are somewhere in the neighborhood of 80.000 stands in N. C. This is probably below the mark. But the losses of the two years past have been very considerable. Enough to reduce the round average by several thousands.

New Garden, N. C., A. E. KITCHEN.

We had no idea that so many bees were to be found in North Carolina. When improved modes of keeping bees are introduced there, with all the advantages they possess of soil and climate, we have little doubt that as large results as are reported from California will be obtained.

I send you a conundrum—one I cannot guess, if as you teach there is but one queen in a hive, and that every swarm that comes off has a queen. I had last May (the 25th) a nice swarm from one of my hives; saved it all right; two hours after, another swarm nearly as large came from the same hive! No mistake about it! I hived them both myself. How do you explain it?

Southern Illinois. C. G.

It is not hard to explain. Your hive had, in some way, lost its old queen; she may have died, but from the fact of there being so many bees in the hives we judge that she came out with a swarm when you did not see her, was lost in some way, and the bees went back. They waited until the young queens in the hive were perfected and then swarmed. A young queen leading each swarm.

If there had been bad weather for a few days previous to the occurance, it is possible that the swarm had been kept back so that a young queen hatched the same day the old queen left with the swarm.

This second solution is, however, not as probable as the first. Either may be the true one, however, without conflicting with the teachings of any practical bee-keeper.

Do you think my bees, prepared as you have advised for wintering, need water towards spring? I have left the caps on, with quilts under them over the frames. Have they sufficient ventilation?

Blair, Pa., F. M. G.

They need no water. Do not disturb them in any way until you set them out in the spring.

As to ventilation, we have always left off the caps from the hives. Others report good results, who have left them on, just as you described. We are inclined to think that when the quilts are on, they need less ventilation than we supposed formerly.

We saw a hive last spring on the top of which (the quilt being on) another hive had been set, and remained so all winter, cutting off entirely any upward ventilation. We thought it would be ruined, but it was to our surprise in good order; bees lively, and combs free from mould, with some brood in thom. The quilt, however, was as wet as if it had been wrung out of water. Our inference is that, it would have been better, had the cap been on that hive. In that case the quilt would have been dry; but it shows also that there is air enough in a cap for all premises.

MRS. TUPPER:—I am indebted to you for the information I have, and shall give; for if I get my bees safely through the winter, it will be entirely due to the advice I have received from your writings. All I see from your pen seems to be to the point. Too many connect their advice with the advertisement of a patent hive, or something else, and it sounds too much like the old Deacon who said "he knew there was a reality in religion as well as he knew he had flour to sell at four dollars and a half a barrel." In describing my bees, I forgot to mention one thing which I am not certain about, and that is, I have stopped the entrance nearly up—so close that a bee cannot get out with a view to stop a draft of air. The theory which I have adopted, after reading your articles in the Bee Journals, is, that there should be upward ventilation to let the moisture escape, but if it is left open below the heat of the bees will cause the air to ascend, and cold air rush in below, and in order to keep up the necessary heat, will make an increased consumption of honey.

O. B. BURROWS.

Close the entrance except a passage for a bee or two at a time, just so they know they can get out, if they wish. Then with the quilts on there will be no draught.

Our great want here is a plant that will produce honey from the 1st to the middle of June. For two seasons now I have had to feed in June. It looks to me like the wrong time of year to have to feed strong stocks.

Riverton, Iowa. ED. WELLINGTON.

While we lived in Washington county, we always sowed buckwheat as soon as possible in the spring. It would bloom in time to just fill in that time of scarcity which is a trouble in many parts of the West. Some years it is true, there seemed little honey in it; other seasons, it was very valuable.

We are told that rape and rapp may be made to bloom early in June. We have not tried it. Will some suggest a plant that blooms at that season.

If bees are not gathering honey from 1st to 15th of June, it "pays" to feed them then, above all other times. You will then have them in good condition for the best honey yield, which comes late in June, lasting until the middle of July.

Is there any way to evaporate honey that has been extracted before capping?

I have heard of setting it near a fire, where it will keep warm, in a wide mouthed can or jar with netting tied over it, but this seems a very slow way.

I have heard, also, of evaporating in shallow pans in the oven; but when we have one or two thousand lbs. to evaporate, this method is impracticable, it is said, also, that heat destroys its flavor. Is this correct? How would it do to put it in a large but shallow kettle, and heat it up almost to the boiling point, and let it stand there for——how long?

There would be some danger of burning it, I suppose. Here in Texas the time saved in uncapping is a great desideratum; we have no expert cappers here; ank a good hand opening can keep two of our best hands capping. B. H. IVES.

We have no experience in the matter and cannot think it pays to take honey from the hives until at least, it is ready to be sealed over. Others may know more about it than we do, and to them we will leave this correspondent.

Cincinnati Industrial Exposition.

CINCINNATI, Sept. 29, 1874.

To the Board of Commissioners:—

GENTLEMEN, Being appointed jurors in Department B, Class 21, we have examined the different entries for competition, and report as follows:

Best Apiary of not less than 50 hives. *Silver medal.* J. S. Hill, of Mt. Healthy, Hamilton Co., O.

Best Apiary of not less than 10 hives. *Bronze medal.* Jos. A. Savage, Ludlow, Ky.

Best Honey Extractor. *Bronze medal.* Henry W. Stephenson, Cincinnati, O.,

Best Display of Honey in Comb. *Bronze medal.* James H. Anderson, Hillsboro, O.

Best Display of Extracted Honey. *Bronze medal.* Chas. T. Muth, Cincinnati, O.

RICHARD L. CURRY, } Jurors.
HOWELL GANO. }

Foreign Department.

CONDUCTED BY CH. DADANT.

Who is there that would not have followed with interest the discussion on the copulation and laying of the mother bee, that had been begun at the Saltzbourg meeting? At the receipt of each number of the Bienen *Zeitung* I thought that the minds of the opponents were becoming more excited, but I was mistaken. Mr. Collin abandoned the battle field and withdrew from the stand, so that Mr. Huber remained alone. Later the Bienen *Zeitung* published several articles on this question, but nobody treated it in a complete manner, so that the question remains as it was in the beginning, when taken in a practical view.

I write this essay to conduct the novice on the track, through which he will be able to form an opinion, helping it with experiments and observations. In order to ascertain at what age the heat begins in the young queen it is necessary to know at what time she has left the cell.

Generally, a mother bee becomes developed into a perfect insect within 16 or 17 days from the time when the egg is laid, if properly attended to.

If properly attended to, the larvæ is developed in three days.

In well stocked colonies and during an abundant harvest, I have seen the larvæ hatch after after two days and 4 hours. In a temperature of 32 to 33 degrees (centigrade) I have seen the larvæ hatch after 2 days and 6 hours. In artificial swarms made with brood combs, in which the brood was but thinly covered with bees, the larvæ often hatched on the 4th or 5th day after being laid.

In a colony that had suddenly become weak, some of the eggs did not hatch for for a week until this same colony had become strong again and the bees were able to attend to their hatching. I will simply mention the fact that bee-eggs that have been deprived of sufficient heat are still capable of becoming developed after 10 or 12 days.

As the egg needs no nourishment but requires only heat to become a living being, the duration of time in which the larvæ becomes developed in the egg depends on the brooding, that is on the degree of heat that the bees produce in the brood chamber. We can assert that, as a general rule, the larvæ leaves the egg in three days.

In too high a temperature all organic life ceases. There is undoubtedly also for bee-eggs a maximum of heat that cannot be exceeded. Bees do not produce in the interior of the hive such a degree of heat that the eggs lose their capacity of becoming developed ; I think that the highest temperature in which they still become developed is 37 to 38 deg. (centigrade—98 to 100 Farh.). This supposition is based on the observation that such a heat is about the highest that can be supported in the hive when the sun strikes it. I made the same observations on butterfly eggs. Such experiments cannot be tried with bee's eggs as the wax melts. These eggs assuredly would perish rapidly in a temperature of 50 deg. fah.

It results from the above remarks that it will always be impossible to establish in every case the length of time in which the larvæ becomes developed in the egg. Generally, the royal larvæ lives 5 days and 12 hours in the open cell.

If it is not a small affair to establish the length of time during which the egg becomes changed to larvæ, it is yet much more difficult to determine positively the period during which the larvæ lives in the open cell. Let the reader make minute observations on the subject and publish them in this paper, for it is precisely on this question that there is least known. Francis Huber, of Geneva, says that the royal larvæ remains in the open cell for five days. According to my observations which differ but a few minutes from those of Van Berlepsch, the royal larvæ remains in its open cradle 5 days and 12 hours, supposing that the temperature is regular and that the larvæ is amply fed. When I removed the comb containing the uncapped royal cells once an hour for two days to inspect it, I found that these royal cells were sealed over only 5 to 8 hours later. Afterwards I removed from the hive some combs containing royal larvæ, I removed the bees and placed one of these combs in an empty hive for 24 hours. I obtained in this hive a temperature of 23 to 26 deg. by means of heated bricks. After this time, I returned this comb to the colony and those cells were sealed 14 hours, and in several cases 15 hours, later than they should have been if in normal conditions.

It results from these experiences, that the royal larvæ becomes developed more slowly and are therefore sealed more tardily, when the necessary attentions have been interrupted and when food is given them after a prolonged interruption. It is known by everybody that royal larvæ requires more than the usual time for their development when raised in an artificial swarm that cannot produce the necessary heat for the brood.—*F. W. Vogel, in Bienen Zeitung.*

The Hen and the Honey-Bee.

(AN APOLOGUE—FROM THE GERMAN OF GELLETT.)

BY JOHN G. SAXE.

A lazy *Hen*—the story goes—
Loquacious, pert, and self-conceited,
Espied a *Bee* upon a rose,
And thus the busy insect greeted :

"Say, what's the use of such as you,
(Excuse the freedom of a neighbor!)
Who gad about, and never do
A single act of useful labor ?

"I've marked you well for many a day,
In garden blooms and meadow-clover;
Now here, now there, in wanton play ;
From morn to night an idle rover.

"While I discreetly bide at home ;
A faithful wife—the best of mothers ;
About the fields you idly roam,
Without the least regard for others.

"While I lay eggs and hatch them out,
You seek the flowers most sweet and frag-
And, sipping honey, stroll about, [rant,
At best a good-for-nothing vagrant!"

"Nay," said the *Bee*, "you do me wrong;
I'm useful too, perhaps you doubt it,
Because—though toiling all day long—
I scorn to make a fuss about it!

"While you, with every egg that cheers
Your daily task, must stop and hammer
The news in other peoples' ears,
Till they are deafened with the clamor!

"Come now with me, and see my hive,
And note how folks may work in quiet;
To useful arts much more alive
Than you with all your cackling riot!"

L'ENVOI.

The *Poet*, one may plainly see
Who reads this fable at his leisure,
Is represented by the *Bee*,
Who joins utility to pleasure ;
While in this self-conceited *Hen*
We note the Poet's silly neighbor,
Who thinks the noisy "working-men"
Are doing all the useful labor!

For The American Bee Journal.

Handling Bees.

I commenced helping my father handle bees in the summer of 1818. I have handled them in the old way, most of the time. I have a few gums of my own getting up, that I can go to, and in one minute, have them open, lift the frames, and give them a thorough examination. Long since I found that one should move slow around the hives, and if the bees should surround him or even come within an inch of his nose, he should be composed. If he should get angry the bees will know it and reciprocate it, and so will they know if you are at ease with them. When you open the hive, if they seem angry or are disturbed a few puffs of smoke will entirely subdue them, and you can proceed with your examination. J. FROST.

Gillespie, Ill.

For the American Bee Journal.

Success in Raising Honey.

We have often spoken of the business of bee-keeping and raising honey as one of certain profit when conducted as it should be.

An apiarian should have a taste for honey raising, he should have a practical knowledge of the business to go into it on a large scale, so as to make a business of it. It is very easy to keep a few hives, but to conduct business on a large scale requires a person of mind, for the study of the habits of this little wondrous creature is a most truly interesting and at the same time a most gratifying one, and when understood, the business can be made very profitable.

The largest apiaries in this state are at Sandiago and at Los Angelos, the southern countries are very favorable for the raising of bees and making honey, as many wild flowers and bee feeding trees, shrubs and plants are found there in great abundance.

Very recently we had an interview with Mr. J. B. Harbison, the well known apiarian, formerly of Sacramento, but now permanently located at San Diego, where he is carrying on a very large and very successful apiary. Mr. H. was in this city with three car loads of his honey destined for Chicago and the East. Mr. H. had already sent six car loads, and anticipates sending six car loads more this season, thus making twelve car loads of honey from one apiary, this looks like business.

We remember well the early days when Mr. Harbison began the bee business with a very few hives, brought here via the Isthmus, at heavy cost, at a time when a hive of bees sold quick at $100 to $50 each.

Mr. Harbison has now at San Diego two thousand hives of bees, these are principally the Italian bees, as they are much superior to the black bee.

In addition to the large amount of honey raised by Mr. H., and it is about 100 tons, Mr. H. makes 1,000 lbs. of beeswax. Mr. Harbison went East with his late shipment, taking it in his own charge.

A. G. Clark, Esq., formerly a partner of Mr. Harbison, has also a large apiary, nearly as extensive as that of Mr. H.

For a person of the right turn of mind and a very little capital, we know of no occupation or business more interesting, or one more certain to make good returns than that of raising bees and making honey. There will always be a market for good honey here, and a certain fair return for it when shipped abroad. All that is needed to insure a complete success is a little capital, intelligence, a willingness and readiness to be industrious as the bee, and success is sure.

We would commend our lower counties, San Diego, Los Angelos, and all along that line of country.

We can always give valuable information on this subject, as we are practically in it in this city, where bees do remarkably well, as we can show.—*California Farmer.*

A FIFTEEN-YEAR-OLD SWARM OF BEES.—Early in July, 1859, I put a swarm of bees in a common box hive made of rough hemlock boards 12 inches square by 15 inches high. From this hive has issued a swarm every year until now. SOL. CRANDELL.

Chatham Village, Col. Co., N. Y.

For the American Bee Journal.

Eccentric.

Now Mr. Editor: did you ever? The old reliable AMERICAN BEE JOURNAL has had it's "Novice," "Amateur," "Tyro," "Fogy," "Beginner," " and many others whom we don't recall; and now here comes another *non de plume* in the way of an "Eccentric." Well, it takes all sorts of people to make a world, they say, and we dont know of any good reason why the bee-keeping world should not have an "Eccentric" as well as other people. So please don't laugh at our queer ideas and awkward movements, lest we become embarrassed 'ere we become waywised in our new relation, for, to tell you the plain truth, we must confess to feeling a little shaky in the *role* of newspaper correspondent. We realize our own limited attainments while in the company of the brilliant, racy writers of the old A. B. J. and really are not sure that we'll be seen at all amid so many great lights, whose brilliancy outshines all smaller luminaries. But, pleading our youthful years in extenuation of mistakes and blunders, we'll try and behave properly, doing the best we can.

By the way, what has become of all our old writers who used to entertain us so often and well? Where is Gallup? Has he engaged in the production of corn so extensiyely, (that yields honey the whole year 'round) that he can find no leisure to tell us of his big feats in bee-keeping? Or has he found a problem in that big, long, hive which he's unable to solve?

And Novice. He too, used to amuse "us little folks" with his funny stories. and numerous experiments. We suppose he's *gleaning* the fields of Medina Co. and really has no time to tell us of what he's doing. Or it may be his "mission in life" has been accomplished, now that the "patent-right fellows" have subsided.

And where is Quinby with his plain practical ideas and large common sense; Adair, with his ponderous, jaw-breaking names and brilliant "new ideas:" Dadant whose extensive, accurate knowledge and terse, vigorous sentences were always read with avidity; Argo who always had something good to say, and knew how to say it well; Burch who once wrote regularly, and usually to the point; and many others, "too numerous to mention." Can't they be induced to resume the pen once more? We trust they may.

We notice that some of the Journal's correspondents have been bothered in getting the pay for their honey. To toil and sweat through the hot summer months to get a nice pile of honey, trusting that the proceeds in the fall, from its sale, will remunerate us for all our hard work, and then be cheated out of a portion or all of our money, by a dishonest honey merchant, may be a nice thing for the latter gentlemen, but we don't exactly appreciate it. In fact it's a transaction that is becoming so frequent that some means should be devised to put an end to it. What we, as bee-keepers, need to-day above everything else, is, some good, sure market for our honey at a fair price, *in cash paid on delivery.*

The cold and chilling winds of spring may decimate the ranks of "bee-dom;" heat and lack of moisture may cut short the summer pasturage. This we can and do bear uncomplainingly. But to lose what honey we do get, through the dishonest, thieving propensity of some city dealer is a little too much; it's the one step from the sublime to the ridiculous. This may be considered plain talk, and we are inclined to think so too. We always try to speak intelligibly, ever aiming to tell the truth. Now, we by no means wish to be "understood that we deem all men (and women) who solicit consignments of our honey, as belonging to that class of people who wish to avoid paying for what they buy. Not at all. But there are people of this class, and we would denounce them in unspairing terms. We know of no better way to make them honest, than to advise people to avoid them altogether. In this connection we would caution all our readers about selling to a New York honey house "on time," unless the parties who run it have a little more regard for their dealing than a Chicago honey house, you'll be apt to lose by it. We've been there and "know how it is ourselves." And "Eccentric" isn't the only person who has lost money by dealing with these same parties.

The season just closed, has been rather a dull one in our localtty. Bees came through the winter in poor condition, faucity of numbers being the rule; while the fearful months of April and May, just did a sweeping business in the diminution of the remnants of what once were, powerful colonies. Juue was warm and balmy, but the avidity of the atmosphere "played smash" with our honey prospects, though our little "baby colonies" increased in stature with such celerity that with the advent of the linden blossoms on the 8th of July, they were "forty thousand strong" and ready for conquest. Ah! yes, they were ready, but the linden hadn't any idea of being pumped of its delicious nectar; and after "making believe" for sixteen days—days of anxious, weary waiting for the good time a coming, ever waiting, but never appearing—doffed its millions of tiny, pendent blossoms, and bid farewell to honey and 1874. And thus it was during the remainder of the season, save that boneset furnished us with enough liquid for colds, croup and catarrh,, the concomitants of Northern winters. (By the way have our readers ever investigated the medicinal properties of the various kinds of honey? If any of you are ailing, we'd advise you too.) And so we've got but little honey, and as honey is low and dull we've surely got less money; but we have got a a few bees left to die off next winter when old boreas and the "bee-disease" make their annual appearance.

Mr. Editor: we said honey was low, and the probability of it commanding still lower prices in the future, stares us squarely in the face. Now, as consumers of honey pay just about as much money for the article as formerly, we'd really like to know what's the matter. Isn't the solution of the problem to be found in the fact that honey dealers are constantly endeavoring to depress prices so as to purchase from the producer at the lowest possible figures. By keeping the price to the consumer up to the old figures, of course the profits of the business are augmented. Now what earthly use is there in giving all the profits to some honey houses why not adopt the Granger's principle of selling direct to the consumer, and save our hard earned shillings, while the consumer will be benefitted by lower prices

and a purer article? Of course, if we raise numberless tons os golden nectar, it may be necessary for us to secure the aid of the "middle-men," but make him do the business, on not extortionate principles. We said that the consumer would get a purer article at a lower price. Of course we can afford to sell at a cheaper rate than the consumer has usually paid, and at the same time, sell him something besides sugar and glucose. It seems to us that there should be a distinction between the products of an apiary and a honey-house. Consumers should note this point; for, while the former represents the delicious nectar of nature's labratory, the latter conveys a strong impression of the conglomeration of a variety of saccharine substances, of which honey forms an insignificant proportion. In recently passing over the Michigan Central R. R., we stopped off at Dowagiac to visit Michigan's rising apiarian, Mr. James Heddon. We were much pleased with his apiary and its arrangements; and also were particularly impressed with the correctness of his ideas upon the above subject. He thinks that extracted honey is having a hard time of it, when compelled to compete with the sugar works of New Orleans and the glucose factories of France. We are glad to add that he, is doing good work in redeeming the good name of extracted honey, by furnishing the consumer with a neat, pure article at living prices.

Mr. Editor, haven't you been bothered so much with the hive controversy as to be out of all manner of patience with the patent-right chaps? Well, we just want to say a word or two on hives, and as we've no "right" to sell or give away, please tolerate us just a few minutes. Long idea hives had been lauded to the skies and their praise vociferated the wide world over, so we, too, must have 'em. Well we've got 'em, and *now* if we could only find the man who invented them, we'd be most terribly tempted to call him—well, we wont say what, but 'twould not be pretty, we can assure you. The simple truth, plainly told, is this: these great, long, ungained, ill-shaped monstrosities of a bee-hive are unmitigated humbugs, both theoretically and practically. Adair may tell us of the obvious advantages to be derived from using a hive ten feet long; that we may increase the fertility of the queen; Gallup may triumphantly point us to his 800 pounds of liquid from one hive in a single season. Novice can predict that these fearful "new ideas" will 'ere long, rule the (bee) world. But why won't Adair have the kindness to say that he loses more than 90 per cent of his bees in winter; Gallup the manliness to frankly state that he can get his 800 pounds from the same number of combs in smaller hives and with much greater certainty; and Novice the candor to admit that he hasn't used such hives at all. These rose-colored pictures of long, one story hives, are evanescent bubles ready to explode upon practical experiment and investigation. They offer no possible advantage over smaller hives, while they are deficient in many prime requisites which small hives possess. And if any "new idea" advocate wishes to "go for us" because of our heresy in this particular, let him "pitch in.'

And now in conclusion, we must confess to having been a trifle belligerent, perhaps, but will try henceforth, to be a steady sober

ECCENTRIC.

For the American Bee Journal.

A Home-Made Bee Hive.

A correspondent of the Cincinnati *Gazette* gives such plain directions for making a bee hive that every boy on a farm with a bit of a taste for mechanics can readily make one for his own bees. He says: In the first place you want rabets, half an inch deep, at each end of the hive, to receive the ends of the frame; next you want your frames made true so that they will hang plumb in the hive. There should be one frame for every inch and a half of space in the width of your hive. Next prepare your bottom board and lay it level. Put your hive on the board so that the frames will run from front to rear; then elevate your hive about three inches, and your hive is ready for the bees. Make your frames just three-fourths of an inch shorter than the inside of your hive, and have them so that they will not touch at either end nor swing against each other. I have a center opening that is very convenient, and different from any that I have seen.

I wish it understood that when I raise the rear of the hive, I raise the bottom board with it. If your hive leans to one side, the bees will build across the frame. I have my bees in a yard, and each hive is covered with a cover made by nailing two boards together and resting it on the top of the hive. I make the top board of my hive in three pieces, by nailing two cleats on the top of them, and making two holes to run across the frames, each hole six inches long. This is to make room for the bees to pass into the surplus honey-boxes. When the boxes are on, the cover alluded to rests on the box.

G. LONG.

For the American Bee Journal.

A few Remarks.

I find different writers in our bee journals and standard books, published for our instruction, often come in conflict on questions of some interest and information to the bee keeping community.

There has been considerable written on the subject of the Italian and native bees in comparison with each other.

With regard to their peaceable and quiet disposition, I have read remarks by some giving preference to the Italians as altogether more peaceable than the native, and that they would hardly ever use the sting, if treated with gentleness. Some have given the hybrids the name of being the crossest and most difficult to manage.

W. M. Kellogg, in your October number, tells us: "Many say that Italians are not so cross in brushing off the coombs as hybrids and blacks, but we don't find it so. We have handled a good many stocks this season, of all three kinds; and when we come to the extracting, give us the hybrids and blacks in preference to the Italians, every time. * * and the worst stinging we have had this summer, has been by Italians,"

I think that a little reflection will satisfy us that the three kinds will probably ply their different weapons when rudely assaulted; and that under quiet and gentle treatment we may succeed, with little trouble, with either of the three.

I confess I have never discovered any marked difference in the three varieties, in this particular.

Again, it has been claimed by some that the Italians will gather more honey than the black bees. There has been so much said in their favor, and they look so handsome, I think if a coloney of equal strength of each kind was offered me for choice, I should take the Italian.

It may, probably, be favorable to make such a change as their education among our native bees will effect. The largest amount of box honey I ever secured as surplus from one hive, in one season, (200lb), was by hybrids. The largest amount I ever secured, except in that instance, was by a colony of natives (174lb). It was in different seasons, and in different fields—hardly admitting of any satisfactory or certain comparison.

From my experiments, thus far, I have no doubt that much more depends upon the character of the hive, than of the question which variety of bees are employed. The most important point to secure is the largest force of workers, through the honey season.

Take a hive in the early part of the season and divide it into three or four colonies, and little surplus must be expected. With all the workers operating in one hive, a handsome surplus may be secured.

My doctrine is,—Secure a large working force by removing all disposition to swarm from the abundant box rooom, given in intimate connection with and easy entrance from the breeding apartment, and secure from 100 to 200 pounds of box honey from each coloney. Let others do better that can. JASPER HAZEN.

Woodstock, Vt.

For the American Bee Journal.

Superior Fiddlesticks.

In the December No. of the JOURNAL, friend Ross pitches into me, and says: "are there not too many that have nothing to report but their failures, after trying to keep the Italian bees pure?" And, "will our learned friend, W. M. Kellogg, please state the condition those four insignificant black stocks were in at the time his Italian queens became fertile?"

I do not know what condition they were in at the time, for they were a neighbor's stocks, and I had nothing to do with them. But I know that they were medium strong stocks, and but one of them cast a swarm. But their condition just then hasn't much to do with it, for it was not only at that time that the Italian queens were mated with black drones, but *all the season through*, when they had no need for their drones.

At the time I wrote, but a few queens had been raised, but later a good many have been raised, and some quite late in the season, and fully three-forths (¾) of the Italian queens were mated with black drones, weeks after the blacks were done raising queens; when, according to friend Ross, they should be out of condition, but still we were "troubled with black drones." With one exception none of us were trying to keep the Italians pure, had no black drones of our own, but plenty of Italian drones. One person was raising queens, and of course wanted to keep them pure. Tried to buy the black stocks of the owner, or put in Italian queens, but he'd have none of it. So we had to run our chances. We kept our Italians in good condition, saved all the drone brood we could get, and I cut out and gave to my friend several sheets of Italian drone brood, so that we had thousands of drones flying. Besides, I killed a great many black drones while transfering one of the four black stocks, and still we were troubled with black drones, to the extent of three-fourths (¾) of our queens.

I think now as I did then, "Superior fiddlesticks."

"What kind of bees has K. got?"

The same kind as you have probably, at any rate they have got legs, wings, stingers, etc., and gather honey etc., when there is any to get. Any one who has noticed bees clustering in front of the hive during warm weather, has seen flies around them too: drawn there by the scent of the hive, trying to get in, and continually on the jump to keep out of the bee-guards way. Then it was the chickens walked up and introduced the flies down their throats, and I never noticed more than one or two that got stung.

Our bees are very quiet, generally, and friend Ross could step up and pick out the flies himself without being stung.

I think it would not be a good plan for any one to put a chicken inside of his hive if living near to friend Ross, for if he is as fond of chickens as he says, he'd "go for" the chicken if he had to take bees and all. Brother bee-keepers, keep an eye on your hen roosts. W. M. KELLOGG.

Oneida, Ill.

For the American Bee Journal.

New Bee Pasturage.

I have been keeping bees in a limited way for the past 27 years, but the number of my colonies never exceeded 40 or 50, until the past season. In the mean time, my experience has met with occasional drawbacks and losses, but I have made the business of producing honey a success, and therefore feel encouraged in my old days to expand it a little.

I have been using the Langstroth hive mostly, but I prefer the large Trellis hive of Mr. Simons, of Fairfield, Iowa; in which I find no difficulty in wintering on summer stands. My Langstroth hives I have to store away in a dark, dry cellar, to keep them safely through the winter.

In my bee yard I have growing a few bunches of a perenuel plant known here as the "pleurisy root." It is a pretty and fragrant blooming plant, upon which the bees cluster busily for more than a month, and do not forsake it until the bloom is entirely gone. What are they after? Honey, pollen, or both?

I consider it worthy of cultivation for bee pasturage. What do our experienced beemen know about it? Will they answer through the JOURNAL. DANIEL RIDER.

Fairfield, Iowa.

No other branch of industry can be named in which there need be so little loss on the material employed, or which so completely derives its profits from the vast and exhaustless domains of nature, as bee culture.

For the American Bee Journal.

Upright Ventilation.

Bees have done better this year than they have for several years past. Two-thirds of them died in this county, last winter, on account of not giving them upright ventilation. The frost accumulated in the hive until the bees were frozen, in a solid mass. The first warm day they would thaw and fall down dead, and leave plenty of honey. Some old fogies came to me to know what was the matter with their bees. They died with plenty of honey. I replied, nothing but laziness. Had you done as I told you, you would have had all of your bees now! "Oh," said they, "they died with some disease. I know they did, for they had plenty of honey left. Did not your's die?" "No, not one. I fixed them, as I told you to do. Take off all the honey; then pack the top of the hive with corn cobs, just high enough so your cap will cover them; put 2 one inch holes in your hive, one on each side, cover well, and your bees will be all right next spring, on their sumer stands."

We have quite a large bee firm here. It consists of some 200 persons. They all belong to the Methodist Church. Their church has a very tall slender steple. On their church, about 20 feet from the top are 4 small holes; left for ventilating the steple. Above those holes the cross timbers are so close together, that I can scarcely get my hand through. Above this is a large space 4 feet at the bottom, and running up to a sharp point. A large swarm of bees have been working all summer. How long they have been there I don't know; the members all, claim to be members of a new bee firm.

H. FAUL.

Council Bluffs, Iowa.

For the American Bee Journal.

My Method.

The philosophy of my method I believe to be this: The bees when hived in an empty hive, want brood-comb first; and being cramped for room, starts combs in little bits near together, along all the triangular guides which they join at the edges before they have extended them so far as to get them materially diverged from line. I have sometimes, (though seldom) had them wavy, and if the frames are not properly spaced, they will build to one side, and get irregular. The difficulty which causes this is having established their brood nest; the next thing is, to store, for which they need room.

Having filled the cells adjoining the brood, they lengthen the cells next a vacant space, before starting comb on the next frame, so that they have to set off a proper distance. Or having started rightly, in extending comb edgewise, they come to the lengthened cells, and diverge from line, to avoid crowding, and obtain room for full length cells next to lengthened ones. This tendency to lengthen cells, adjoining a vacant space, continues; and the further they go, the worse they get.

Of course as soon as they get well started they should have additional room; but here comes another difficulty, growing out of this same tendency to lengthen cells for storage. In building on the frames inserted between those started, they are apt to come in contact with those lengthened on the adjoining frames, and hence have to make short cells to preserve space between combs, which gives irregular surface. This has to be remedied by so placing them between straight combs as that they will properly lengthen the short cells on the new comb; but by inserting the new frames as needed between broad combs or sealed cells, this difficulty is largely avoided.

I made the discovery accidently by placing two very large swarms in one hive in a hurry, when they were coming fast, and the next day having some friends call, and wishing to show them what my big swarm had done, I opened them and found the state of things desribed above. The hive used was six and one-half deep, 14½ in width, taking 21 inch frames and they had as stated above, stacked combs close together the whole length of all the 10 frames.

This was a grand success under difficulties, which I had found so great that I had begun to think camb frames and modern bee-keeping a humbug. I acted on the suggestion and had no farther difficulty; observation and reflection have convinced me that the theory I have given you is correct. At all events the method succeeds.

H. HUDSON.

Douglass, Mich.

For the American Bee Journal.

Queen Raising.

I promised to give more facts on queen-raising, in my last letter. This is the main point in bee-keeping; if every bee-keeper sells full colonies or queens it would give them a better reputation. If you send for good stocks of course you want a young and profitable queen. If I pay the owner the price he asks for good colonies, has he a right to send it with a worn-out queen, that I have to try 8 or 10 days or a month to raise; when I have paid for a good hive. Such men should be published through the JOURNAL, so that strangers may know them.

After every stock had a good queen, they became strong and yielded over 5 per cent; I had from one good swarm, in 8 Langstroth hives. Sold 2 queens ($5) and about 9 gallons of Extracted Honey, at 25 cents per lb. I had a swarm that was weak in the spring that did not give quite so much.

JOHN P. GRUNTHER.

Theresa, Wis.

For the American Bee Journal.

The Tulip Tree Again.

On page 223, October No. of the AMERICAN BEE JOURNAL, I notice an article from the pen of J. Ralston Wells, upon the value of the tulip as a honey producing tree. As he says there are many making inquiries how they may be obtained, I will take this method of informing the readers of the JOURNAL that I can furnish a few hundred of the young trees—1, 2, and 3 years old. The tulip tree will not grow from cuttings, but lives readily when transplanted, from 1 to 5 years old. Older than two years would be unhandy and difficult to ship long distances.

W. E. FREEMAN.

Olustee Creek, Pike Co., Ala.

For the American Bee Journal.

Alsike Clover in the South.

Having had several years' experience with this specie of clover, I trust some of my conclusions may be of value to a portion of your readers.

Alsike produces more honey than white clover and continues much longer in blossom. The honey is of a good quality, a little higher colored than that of the white clover and not quite so delicate in flavor. It branches like red clover, and the same stock will often have at the same time many ripe heads, and even to the embryo bud, so that when the crop is cut for seed, the straw makes a second quality of hay if well cured. Horses, cattle and sheep are fond of it for hay or grazing.

I sow about five pounds of seed to the acre, with the same quantity of timothy. It makes better hay than the red clover, though not so productive. It does best on moderately moist soil. If grown with timothy for seed, the latter should be cradled before the Alsike is cut. Sorrel and other small seeds should be carefully sifted out After Alsike is threshed out, but before it is ground out of the hull.

In my opinion every bee keeper should try Alsike clover for his bees. I say try, for I am not confident that it will succeed in sandy soil at the South. E. NEED.

For the American Bee Journal.

Whistling Down Swarms.

Mr. George T. Hammond, of North Bergen, N. Y., (a successful and progressive bee-keeper) tells me that he practices whistling down swarms, and has never failed in causing them to alight, since becoming acquainted with this method of arresting their flight. His attention was first called to whistling for them, in this way. A neighbor had a swarm that were flying over. Being asked how he stopped them, he replied "the boy whistled them down," but would or could not tell how he did it. Mr. Hammond says he did not take any further notice of it, till the subject was again called to his attention by reading in the proceedings of the Bee-Keeper's Convention, that a gentleman stated that he could control a swarm of bees on the wing by whistling to them, and by request gave a specimen whistle, which was pronounced by the reporter to be indescribable upon paper.

My informant, at the proper season, practised and hit upon a sound which seems to have the desired effect and can be tested by any person of ordinary whistling abilities. As I heard him repeat the sound I should describe it as not being very peculiar, but a brisk modulated repetition of whist-whist-whist.

Now if this whistling theory is a success, how superior it is to all other known methods for stopping absconding swarms. What easy control it would give to the apiarian over his bees, during the swarming season. How easily "Novice" or P. G. could have stopped that swarm of Italians led off by "Giantess." This running through the house pell-mell kicking over the stool and scalding the cat, in your efforts to pull the looking glass from its hangings, meanwhile one of your largest swarms may be doing its level best for the woods—and then when you think you have your glass in position find the sun does not shine, or is disappearing behind a cloud, is not just the thing to preserve that mental equilibrium said to be so necessary in handling bees.

My object in writing this article is to broach the subject, and get reports from others who have tried the experiment; as I cannot confirm Mr. Hammond's success by my own experience, not having any confidence in my whistling abilities to imitate the call of the queen, yet think if I were again to go through the past season's labors in the apiary I should attempt some tall whistling when seeing swarms making for the woods, and I without means to hinder their progress. C. R. ISHAM.

For the American Bee Journal.

Dysentery Again.

Bidwell's paper, as printed in the November No., will create a general row among bee-keepers, and no doubt new ideas and profitable experiments will be discovered. The discovery of bees flying under glass will be of great importance for bee-keepers who are in a very windy situation, like myself. Last year every one wintered his bees so well out-doors and in cellars that no complaints about dysentery were heard off; but I fear very much if Bidwell's plan, when tested with bees having the dysentery, may yet prove a failure; because the space being so small they will smear each other so much that nearly all will be soiled. I find in time of dysentery that there is always a great loss of bees, partly through weakness and by the smearing of their wings in their first flight.

Last year my bees soiled the snow but very little, and the consumption of honey was very small. By the burning of my farm, and the lack of time in October and November to feed them, I was compelled to feed every week all through the winter; so every Saturday afternoon I examined frame after frame, as in mid-summer, to see what honey they had, to prevent starvation.

Sugar syrup in bulk they would not take, I must coax them in every manner. By care and continual feeding they came through in good condition, although they had to coil over the top of the frames once a week, and I got a good deal of stinging too. No man was ever bothered so much with his bees during winter. Had I given strained honey it might have been quite different. Novice mentions that dysentery is often attributed to the quality of the honey. That is my opinion and experience.

In Belgium the honey season is over with August; many bee-keepers instead of killing them put several stocks together, these new hives are sent to the province of Antwerp where one-half of the State is very barren, but a low brush is found from which the bees gather fall honey. Some years, in wet seasons they gather very little, and some years enough is stored to winter on. Now many bee-keepers, and myself among them, have never been able to winter a colony without dysentery. It is a common saying that the honey of this flower is too hot to winter them. I believe those bee-keepers do not know what they say; yet

dysentery is a fact too well known to be disputed. Ventilation, or warmth, have nothing to do with it, because they are set in their straw hives in the same rows with the other hives, and the ventilation and warmth is the same for all. This is a clear proof that "Novice" is right in saying that the nature of honey has much to do with it.

A Question, I should be glad to know—Does any bee-keeper's experience in warming his bee house, during a cold season in April, with his hives on the shelves, advise such treatment? Will any one give his experience on this matter in the BEE JOURNAL?

Will Gallup and Adair gives us a report of their apiaries with their 4 ft. hives?

Wequoick, Wis. JOSEPH DUFFELER.

For the American Bee Journal.

Bees in Aroostook Co., Me.

We have had a very poor seasou for bees in this county, the past summer; and the causes are very obvious. Last winter there was but very little snow and in consequence the spring frosts pulled up and killed all the white clover which is usually abundant in this vicinity, and from which our "little pets" gather the most of their honey. Leaving them not much else to gather from except the blossoms, which are not very plenty in this section, and dandeloin. They were prevented from gathering honey from them by the excessive rains, which kept up a continual spatter all through the months of May and June, leaving nothing for them to gather until they got at a species of golden rod, from which they gathered a small amount. Very few colonies have gathered enough to winter on. Scarcely a hive has swarmed, and the hives on an average are lighter than they were last spring. Hundreds of colonies will swarm the coming winter if not fed.

This county has been, for the last ten years, the honey garden of Maine. But this year we are having a big share of "poor luck." If we keep our bees on "luck," this winter, I am convinced we shall lose most of them. It is so strange that those who keep bees do not inform themselves on bee culture, when they have a chance to take a paper like the AMERICAN BEE JOURNAL, that will repay them the subscription price every month, and scarce a volume since it was established but would pay a bee-keeper to lay by at five dollars each, for future reference.

Houlton, Maine. R. S. TORREY.

For the American Bee Journal.

Breeding Peaceful Hybrids.

After carefully studying the natural history of the bees for some time I have come to the conclusion that the disposition of the workers depends altogether on the drones, and that there can be a cross made between the Italians and blacks, which will produce a race of bees as gentle as the pure Italians.

I began bee-keeping with a few stands of Italians and hybrids; the latter being the progeny of Italian queens which had mated with black drones. These I found to be very cross, which is the reported experience of all who have kept them. The Italians were, as represented, gentle.

Last year, some of the old Italian queens, whose worker progeny were hybrids, were superceeded and the young queens that were raised from them mated with Italian drones, This spring I found that the progeny of these queens had wintered better; also that the queens began to lay earlier, and were more prolific, and consequently were the first to raise drones and become strong enough to divide. These hybrids, unlike the others, were as gentle as the Italians. Several of my young Italian queens which I raised this summer have mated with drones which are the progeny of these queens, and the workers from this cross are also gentle.

I have never owned any black bees, but observing my neighbors, I find that the pure blacks are always cross compared with the Italians, but the progeny of a black queen which has mated with an Italian drone is gentle,

Thus I conclude that the worker bees which are the progeny of an Italian queen, a hybrid queen, or a black queen which has mated with an Italian drone, are gentle. Those who are the progeny of an Italian queen, or a black queen which has mated with a black drone are cross. Those which are from an Italian queen and a hybrid drone are gentle.

I have not had a chance to make any observation concerning the disposition of bees that are from a hybrid queen which has mated with a hybrid drone, but if my conclusions that the fighting qualities of the workers depend on the drone are correct, they will be as gentle as those of an Italian queen which has mated with a hybrid drone. N. A.

For the American Bee Journal.

My Experience.

MESSRS. EDITORS:—I am not in the habit of writing anything for publication, but as I am deeply interested on the bee question, perhaps a word from me would not be amiss. I am now 64 years old; have been raising bees since 1849; but my love for the little insect, whose life is so suggestive of industry and wisdon, is unabated. Last winter I lost between $300 and $500 worth of bees. Since that time, the season has been better, and I have averaged $25 to the hive. Have been raising the Italian bees for 4 or 5 years. Am well pleased with them. I see them very busy sometimes, when the black bee is idle. I have sold the Italian bees for $30, when the black bees could have been bought for $5. I have been using the Langstroth hive since 1856, and think it the best I have ever seen.

Your JOURNAL is invaluable. I have been a subscriber to it from its infancy up to the present time. Its visits are like the visits of an old friend—always welcome. I wish you success. JOHN C. DAUGHERTY.

Owingsville, Bath Co., Ky.

Always have the cheerful rays of the morning sun fall upon your hives; but contrive to throw a shade upon their front for a few hours in the middle of the day, when the weather is very hot. Such a shade will be grateful to your bees.—*Nutt.*

For the American Bee Journal.

Honey Producing Plants.

We give a notation of honey-producing plants in the vicinity of Aurora, Marion Co., Oregon, for the year A. D., 1874;

FEBRUARY.

The willow was in bloom from Feb. 14 and continued to April 18.
The varionica from Feb. 16 to April 24.
Chick-weed, from Feb. 16 to May 20.
Hazel, from Feb. 28 to April 8.

MARCH.

Meadow-cress, March 16 to April 24.
Cedar, from March 16 to April 8.
Brush unknown, (No. 1) from March 20 to April 24.
Balm of Gilead, from March 20 to April 8.
Salmon berries, from March 28 to May 4.
Dandelion, from March 30 to July 12.

APRIL.

Peach, from April 1st to April 28.
Wild currants, from April 1 to May 18.
Oregon grapes, from April 4 to May 3.
Gossberries, from April 4 to May 10.
Plumbs, from April 1 to April 28.
Cherries, from April 9 to May 14.
Bear, from April 10 to May 6.
Soft maple, from April 10 to May 20.
Common currant, from April 11 to May 14.
Apples, from April 16 to May 18,
Prunes, from April 16 to May 3.
Vine maple, from April 18 to May 24.
Raspberries, from April 22 to June 3.
Iris grass, from April 23 to June 6.
White clover, from 25 to Oct 12.
June berries, from April 25 to May 22.
Sheep sorrel, from April 25 to Sept. 2.

MAY.

Oregon crab apple, May 3 to May 20.
Blackberries, May 6 to July 20.
Brush unknown (No. 2,) from May 5 to May 28.
Barberry tree, from May 3 to July 10.
Red clover, from May 12 to Sept. 30.
Man-in-the-ground, from May 14 to July 25.
Thimbleberries, from May 14 to June 30.
White swale flowers, from May 14 to July 10.
Wild and cultivated camomile, from May 14 to Aug. 18.
Huckleberries, from May 10 to June 3.
The mallow flower family, from May 10 to September 25.
Laurel, from may 17 to Jnne 20.
Alsike clover, from May 18 to September 1st.
Snowberries, from May 18 to July 16.
Brush unknown (No. 3.) from May 18 to June 20.
Thistle, from May 18 to Aug. 10.
Roses, from May 20 to July 25.
Umbelliferous family, from May 20 to August 10.
Salalberries, from May 23 to July 29.
Milk weed, May 28 to September 12.

JUNE.

Lobelia, from June 1 to July 30.
Flowers in swamps (unknown), from June 1 to August 15.
Common grape, from June 8 to July 10.
Spirea, from June 8 to July 20.
Heal-all, from June 15 to July 25.
Indian arrow-wood, from June 15 to July 25.
A little bell shaped flower (name unknown), from June 15 to July 24.
Elder, from June 18 to July 26.
Cat mint, from June 18 till heavy frost.
King's tapers, from June 22 till heavy frost.
Weeds in bottoms (unknown) from June 28 to September 1.
Various kinds of the mint family, from June 25 till frosts.

JULY.

Blackroot, from July 2 to August 25.
Corn, from July 8 to Aug. 20.
A vine in bottom (unknown) from July 12 to September 1.

AUGUST.

Ripe fruits commence, such as apples, pears, plums, etc., which bees work on when first pierced by birds or other animals; some last to winter.
Spanish needle from August 10 till heavy frosts appear.
Farm products that produce honey are successfully raised here, such as rape, buckwheat, etc.

SEPTEMBER.

A number of the above named flowers bloom again after the early fall rains and continue till the frosts kills them.

J. W. Wills.

Wintering Bees in the South.

The great object of bee-keeping is the production of honey, and to promote this object successfully, is to provide suitable homes for the bees, and give them suitable care, both winter and summer. Man cannot change the season or the instinct of the bee, but he can provide suitable homes for them.

The necessary requisites for successful wintering are 1st. Plenty of good honey, not too much. 2d. Sufficient warmth, 3d. Pure air and dryness. Bees having a supply, and being provided with the above requisites, there need be no fear but they will winter successfully. They will generate their own warmth in the coldest weather. Should they remain on their summer stands they will get pure air, which is a great necessity to their prosperity. In the north it will be better to protect from the cold, by placing the hives against a tight board fence or a building. This will break off the bleak winds, and with a few boards to protect them from the sun, they will winter finely, Have a small upward ventilation, but guard against a current of air passing through the hive, and keep them dry.

Bees need but little care, comparatively speaking, to what they do in the North or West. They should have good honey and plenty of it; protect from the sun by giving them some cheap cover, which will prevent them from coming out every warm day; also it is a great saving in the consumption of honey. Bees need no matresses to absorb the moisture arising from their breath. Where they can have a fly as they do in the South every few days, there is but little frost accumulates in the hive. The greatest destruction to the bees in winter is the dampness which accumulates in the hive, which occurs when a period of cold weather sets in for several days or weeks, without a warm day or two to give the bees a fly.—*Bee World.*

For the American Bee Journal.

Failures in Safely Wintering Bees—The Proposed Remedies.

There are about as many plans proposed for the proper wintering of bees as there are writers, and yet every winter shows the utter failure of nearly every plan. We have a great deal of theory, but very few facts. The few facts published are generally accounted for in the most unreasonable way. An old and much respected acquaintance once told me that a neighbor of his had lost all his bees. The reason was (he said) an old uncle had died in the family, aud they forgot to tell the bees. The two circumstances did actually occur. His mistake was, supposing that one resulted from the other.

An old bee-keeper, and an intelligent one, lately as serted that uncapped honey was poisonous. His reason for saying so was that he had heard so, and once he became sick after eating uncapped honey. So with the failures in wintering bees. A few facts are observed, but they are supposed to be connected together in a very illogical manner. Thus, water is often found in the fall or winter in the hive, or the mats if used are partly saturated. Its presence is accounted for by supposing that the bees evaporate a large quantity, which afterwards condenses on the combs, and sometimes on the bees themselves, causes mould, disease and sometimes death. The mats are often shown, saturated, as an evidence, but my experience is that the moisture comes through leaky roofs. My blankets are covered with tarred paper, lying close upon them, yet the blankets are dry in damp weather, because the tarred paper sheds the rain.

Novice feeds a few swarms on sugar syrup, after extracting all the honey gathered in the fall, and they live through the winter. Many bee-keepers therefore conclude that all fall honey is unhealthy for the bees, and that they would have died, if they had not been supplied with sugar syrup. Straightway they adopt the infallible remedy of pumping out all fall honey and feeding up with artificial food. One or two winter's experience will kill that remedy.

Another bee-keeper says he does not want more than a pint or quart of bees to winter with. The difficulty here is to measure a pint of bees. It would be an interesting sight to see a man stuffing bees into a measure. How tight should he pack it, or rather how tight *would* he pack it. The trial would not last long and he would be as uncertain at last how many bees make a pint. I think he would find that a great many had *points* if they couldn't make a *pint*. The lookers on, if well protected would enjoy it.

Another bee-keeper surrounds each hive with a large box, and packs between with saw dust, straw, dry earth, chaff or other good non-conductors. Another puts his swarms in a dry cellar, moving them out and in on warm days to cleanse themselves as he imagines they must, and talks about their being swelled up with the enforced confinement of the fœces within their bodies. Just imagine a dog swelled up to double size because he could not find a convenient door-step on which to make a deposit, or a man waling about with an apparently sudden attack of dropsy, because our city council has not provided a public water-closet. Others build special houses to winter their bees in. Still others put on their hives, blankets and mats with special provision for ventilation, in the face of the facts that the bees, when they can, will stop air-tight every crevice except their entrance hole. If another hole is left two or three inches in diameter perhaps they will not close it because it is too big a job, but if the owner will put a piece of wire gauze on it, they will plaster it all over and make it air-tight.

The blankets and mats appear to be good, because they are non-conductors and not because they ventilate the hive or absorb the moisture. The latest, and therefore most approved, plan, is to winter bees under a cold frame, or, as the phrase is, *under glass*, That will have a run for a winter or two. A short time ago one of my acquaintances made an experiment which appeared to be successful. He surrounded one of his hives, early in the spring, with fresh manure, thus making a hot-bed of it. His intention was that the extra heat should start the queen to laying and aid in hatching out the brood. In this he succeeded very well. With a view to public benefit, he wrote a circumstantial account of it to a certain person who being of a volatile, sanguine, harum-scarum disposition immediately procured several loads of manure and buried up his whole apiary of fifty hives more or less. He published, from time to time, how he was progressieg with this great invention, but suddenly his proclamations ceased and nobody knows from him, how it resulted. They only know that as usual his bees did not winter well or as it is now fashionable to say they did not *spring* well.

In considering the subject of wintering bees a good plan is to examine the condition and progress of the life of a swarm in a state of nature, and to ascertain what instinct teaches them to do. Art can only slightly improve on nature but cannot entirely change it. Bees in nature are generally found in hollow trees. It is not probable that many accurate observations have been made, but the best knowledge we have, is, that they select a home in the hollow of a tree, which hollow has resulted generally from decay.

These hollows are from one foot to perhaps fifty feet in length and of different diameters. The walls are generally in a decaying condition, being spongy, and full of air cells, thus making a first rate non-conductor. Here they work from year to year, no honey being taken away by man, comb accumulating every year until the whole cavity is filled and if the seasons are good the honey also accumulates, so that when a bad season happens they will have probably the surplus of several years to tide them over. If the cavity is large they probably never swarm, their numbers will increase according ty the laying capacity of the queen. These several conditions always ensure large swarms and plenty of food. In such hives where is the ventilation? If there should be a hole above, which would happen maybe once in fifty times, such strong swarms would live in spite of its ventilation, but they would stop it up if possible.

If there is any superfluous moisture it may be taken up by the decaying wood lining the cavity, but there is probably no moisture. In human life there is so little extra moisture, that it requires accurate experiments to find it.

In what case of animal life does the moisture emanating from their bodies, condense to such an extent as to dampen and mould their beds? Then why should a swarm of bees be so exceedingly productive of water. From my reading, from conversations with bee-keepers and from my own small experience, I think I can point out the principal causes of our want of success in wintering.

The extended use of frame hives makes it so easy to take away honey that they are often left with insufficient stores. It is so easy to divide or swarm artificially, that in the fall our swarms are often too weak in bees, to keep up sufficient animal heat for winter. The beauty of the Italian queens and the apparent prosperity indicated by the *number* of swarms, hinder us from doubling up, consequently we are very likely to go into winter with a large number of weak swarms with insufficient food, and come out in spring with one half or one tenth of the number of weaker swarms in starving condition.

At the Pittsburgh Convention, on the discussion of the question whether it would pay to carry bees to a warmer climate to winter, bringing them back in the spring to this neighborhood, several old bee-keepers seemed to think that such a process would be useless, because nature provides that in very cold weather bees become torpid, and in that condition consume almost no food, and that the difficulty of wintering is not directly from the extreme cold but from the lack of means of resisting the effects of the cold.

My conclusion from all the foregoing is, that, if swarms are strong in numbers of bees in the fall, and have plenty of honey, all the difficulties of wintering would vanish. Therefore bee-keepers must avoid extracting honey to an extreme point. If they multiply swarms in summer beyong propriety, they must reduce the number in the fall by doubling up or joining to-gether.

It is much better to lose several queens in the fall, than to lose both bees and queens in the spring. If the swarms are strong in winter and have plenty of honey, all experience shows that the dangers from want of ventilation, extra moisture &c., are very small snd very remote. Use as many blankets and other non-conductors as you please they are generally very useful, and strong swarms can stand a good deal of ventilation if your ideas run strongly in that direction.

Cincinnati. O. H. W. S.

STANDARD FRAMES.—S. D. McLean, in the *Bee World*, says: "The size of a suspension frame I use in my own apiary is fourteen and one-quarter by nine and one-quarter inches, though not the size I prefer. Were I to commence anew I would make my frames fifteen by ten inches, exactly, outside measure, with three-fourths of an inch extension at each end of top bars to rest on the rabbets of the hive. I suggest that size to the advocates of a standard frame, as a compromise among the many now in use. The length would be about a medium between the Quinby and the Gallop frames—the longest and the shortest frames made—and the depth would be amply sufficient for brood combs, and not so deep as to be liable to swing together at the bottom or have the wavy combs in them,"

For the American Bee Journal.

Answer to Mrs. Spaids.

If the copy books of the Chicago Honey were not burned, Mrs. Spaids would see that her answer to my inquiry of what they were paying for fall honey, was simply, "We are paying fifteen cents,"—without any condition of its being good. And as to my saying it was *nice*, I made no such assertion. When shipped to them, it was candied. They had it in their posession for several weeks, and when it was turned over to Perrine, it was thin and watery. How the change come, I cannot say. Has anyone ever known candied honey to turn thin and watery? My advise to bee keepers, and what I intend to do in future, is to keep the fall honey for winter supply, or increase of bees, and sell only the summer honey.

WILLIAM W. BIRD.

Napoleon, O.

HONEY DEW.—A. H. R. Bryant, Kaufman, Texas, says: "Some two years since I was attracted, by the hum of bees, to a box elder that stood in my yard, and when I looked for the cause, I found not only the leaves of the tree covered witn honey dew, but the limbs, and also the weeds and the grass underneath, liberally covered with the honey dew. On my first examination I did not find the aphis, and came to the conclusion that it was sure enough, honey dew from the atmosphere; but on a closer inspection, I found the young, tender twigs—which are very green—litterly covered with a very green aphis, (plant louse), hence the abundance of the so-called honey dew, that was litterally dripping from the tree to the weeds and grass below,"

TRAVELING APIARIES.—The New York *Tribune* says; "Some of our apiarians are talking of a wagon with frames for a large number of hives, that can be moved about from one location to another. The benefits claimed are to take advantage, first, of the maple and willow blooms; next come back to orchards and white clover; then off to the forest for the basswood and other flowers; then for the blossoms of the tulip tree, and finally back to the fields of buckwheat and flowers of Autumn. The plan has been pursued in a small way for some years."

In the ordinary glass honey boxes now in use, it requires about 35 cubic inches to hold a pound of honey. Larger boxes lose less space, and hence require a less number of cubic inches. Thus a box 4x5x6 inches contains 120 cubic inches, and, therefore, when well filled and sealed over, holds about 3½ pounds. A 5lb box requires about 33 inches to the pound, and a 10lb box about 30 cubic inches.

I get rid of fertile workers thus: Change places with a strong stock and let them remain a few days. Then open the hive, and if no eggs are found, I introduce a queen. I succeeded once in rearing a queen, having her fertilized, and remain in a stock with a fertile worker, and she did well. It was a stand of pure Italians, very quiet and peaceable.—*W. H. Nicholson.*

For the American Bee Journal.

Hives for the South.

MESSRS. EDITORS :—Your correspondent "Edgefield," of South Carolina, wishes me to give a description of the hive I use and recommend for our climate. Now there are hardly two bee-keepers that entertain the same opinion in regard to the arrangement and construction of hives. What suits one does not suit another. While it is of the utmost importance to have our bees in a good hive, large yields of honey (other conditions being the same) are less dependent upon the sort of hive than upon right management of the bees.

While I believe it is impossibie to construct a hive against which no objections can be urged, I think they can be made so that very little more need be desired. In making a hive for the South, an observance of the following principles and laws seem to be very essential :

1. Perfect adaptability of the hive to the instinct and habits of the bee.

2. Simplicity. All parts, including frames, must be so arranged as to admit of great ease in opening and closing. There should be no parts about it that cannot readily be gotten into, and examined when necessary. And all these arrangements must be made with special reference not to crush any bees, and to disturb them as little as possible.

3. Enlargement or contraction of the brood chamber at pleasure, so as to suit the size of the colony. There is much diversity of opinion in regard to what should be the size of the brood chamber. I find about 2,000 cubic inches to be a good size for a strong colony worked for box honey ; if extracted, I prefer it at least 4,000 cubic inches.

4. Shallow frames, not deeper than the Langstroth. Small frames are desirable in the surplus department. These should be arranged immediately above or near the sides of the brood chamber. If boxes are preferred, place them the same. This is very important.

5. Good ventilation. In our climate we need the top of the hive to be kept well shaded and cool, particularly if we desire box honey. If this is neglected, the heat is often too great, and prevents the bees from working in boxes even in the midst of an abundant yield of honey. Shallow frames can be kept cooler than tall deep ones. Large roomy caps with ventilators attached are most excellent.

The hive I use is a modification of the Langstroth. The frames are 16¼x8⅝ in. in the clear ; open at top, with the exception of each end which keeps them equally distant apart. They are made to hang true, and rest on the edge of a strip of metal. I use no nails, wires, etc., to keep them apart at the bottom. Allow a half inch space around the ends and bottom of frame. Make all hives with tight bottom boards. The body of hive is 16 inches wide in the clear, with a division board. By pressing this board back against the side of hive, ample room is gained so that frames can be removed with great ease. There is a ventilator on the side of hive near the bottom, next the division board. This produces an upward current of air between the side and division board, and also around the honey-boxes, through the cap.

My honey boxes have small frames in them which are in direct contact with the brood chamber, with no honey board between. When a colony is to be worked for extracted honey, I prefer them in long, one-story hives with 20 or 30 frames of the above size. Entrance only at one end. Keep the frames covered with a "honey quilt" made out of gunny bagging. Hive is covered with a shallow cap with ventilators at both ends. With these hives the bees do not hang out in the hottest weather.

For the information of all concerned I will say that there are no patents on the above described hive. J. P. H. BROWN.

Augusta, Ga.

Voices from Among the Hives.

JOHN L. DAVIS, Delhi, Michigan, writes: —"We commenced this season with forty-seven hives of pure Italian bees, and have obtained 2,500 lbs. of comb, and 500 of machine honey, and sixty-six new swarms or nucleus. We sold seventy queens, and several swarms also. By the middle of September every hive, both large and small, was crowded with honey, except three or four that were hived about the 8th or 10th of September. While trying to obviate, or avoid, the cutting of comb in queen raising, we have discovered that we can, with a pointed instrument, remove the worker larvæ from the worker cells, and introduce them into incipient queen cells, and the bees will raise them into nice queens. This we call the Davis transportation process. It can be done in any queenless colony, and in very populous ones that do not swarm when they should, which is the case with black bees, frequently."

W. D. WRIGHT, Knowerville, N. Y., writes :—"The past season has been an excellent one for bees in this section, and honey is very plenty, and low in price. Basswood yielded more honey than for several seasons past. Bees swarmed abundantly in general. To have had such poor success for several seasons past in wintering bees on their summer stands, that I concluded to try some other way. I have built a repository similar to Novice's. Size 12x14 feet. walls 12 inches thick, filled with saw dust, material ; cost about $125.

If I fail to winter bees successfully in this. I will at least have a good building in which to extract and store surplus honey."

M. H. MILSTEN, Frohna, Mo., writes :— "I commenced in the spring with 21 stocks, most of them very weak ; increased to 25 strong ones. From these I took almost 1,400 lbs. of extracted honey, besides running my farm. I had the pleasure of visiting some apiaries this fall, one of which was Dadant & Son's, of whom I purchased a small stock of bees with an imported queen."

THOMAS FROST, Gillespie, Ill., writes :— "The past season has been very dry till August. The rains then started white clover and other blooms so that bees filled their stands, and some of the stronger worked in boxes. The bees are all black in our neighborhood ; the season was very poor till the fall blooms came on, then it was only an ordinary season."

L. C. AXTELL, Roseville, Ill., writes:—"Bees have done very poorly in this vicinity for the past three years. Nearly all the bees that have had no care have died off. I have been keeping bees for two years. Last year they had no honey harvest, I fed considerable. I think their increase paid me for their food, and the labor of taking care of them. This year no harvest but buckwheat, which yielded bountifully. From 24 colonies I got 23 swarms and 1500 lbs. extracted honey, which retails at 25 cents per lb. I do not know of a natural swarm that will live through the winter."

J. B. RAPP, Owsnsville, Ohio, writes:—"I am very much pleased with the AMERICAN BEE JOURNAL; you can count me as one of your life subscribers. I would not do without it if it cost twice or three times as much as it does. This is a poor honey section. Our main dependence is white clover, and the drouth usually cuts it short. I have thirty colonies, about half of them are Italians, and all but one are in movable comb hives. They have an abundance of honey, and although a part of them are not as strong in numbers as I would like, yet I think I can winter them safely. I carried twenty colonies that were much weaker and had but little honey through last winter and lost but one, and that starved. I bought a weak stock at a sale, this month for ten cents. A neighbor gave me two last evening; all were good swarms when put in hives. Laet spring I bought four good stocks for $10

L. W. HARRINGTON, Clyde, Ohio, writes:—"The AMERICAN BEE JOURNAL is the best paper published. In it farmers can find information that they can rely upon, and not too much theory and wild-goose speculation; and bee-keepers that make a specialty of the business, can procure information that is practical. I have stored my bees in my grainery and barn, have given them ventilation above and below that they may know that they are not prisoners. This grainery is not very cold as it is double boarded, and I make this part dark."

ALBERT BULL, Bloomfield, Ont., writes:—"I feel thankful for past instructions from your valuable paper, hoping that I may receive more. I have done well this season with my bees. I have 48 swarms. I extracted 4,350 lbs. from 31 swarms, commencing July 29, and finishing August 18."

G. E. CORBIN, St. Johns, Mich., writes: "I observe on page 251, of November number of AMERICAN BEE JOURNAL, that L. F. asks: 'Why do bees *always* use the left hand hole for ventilation?' Being something of a yankee—which I suppose implies one with 'an inquisitive turn of mind'—I should like to reply to his question, by asking another: Why do shads 'always' climb sign-posts, 'tail first?'"

B. FRANKLIN, Franklinton N. Y.:—"I lived in Iowa two years, I was in the bee business there, bought 9 hives, paid $60; kept them 2 weeks, brimstoned them, sold the honey in Davenport, lost $35,00, went to Wisconsin, came back here, started in the business and kept it up. Came out with 47 hives last spring, some very weak ones increased so that I have 86 now, and have taken 3000 lbs. of honey this season 2150 lbs. of it box honey in 2 lb boxes, the rest extracted. I have a very simple hive; my frames are 14½ by 10½ inside frame, use from 8 to 22 frames in a hive; they open like the leaves of a book, stood up on end. I have seen a great many different kinds of hives, but I have not seen one that I can open and change combs, or do anything I want to, as in this hive, for boxes. I put boxes on the back end of frame and on top, some on three sides and on top. I have 15 hives that I box on 3 sides, these I winter out-doors with chaff around and on top. I wintered some 50, which came out in splendid condition, comb all bright and nice. I see some are in for a standard frame 12x12. Mine is near that; I have no trouble to get straight combs without elevating the hive, either. I have a thin strip in the top bar sometimes they will build the comb over half way down, before they will touch the top bar. I have transferred quite a number of common hives andI find this size frame is just right. I don't have any trouble to get the combs in all right."

M. C. H. PURYEAR, Franklin, Tenn., writes:—"I do not keep bees for profit, but as a luxury; have fourteen colonies, give the increase to an old friend who takes charge and manages them, who is engaged in bee-business as a support in old age. I give him my JOURNAL: he files it away and prizes it next to his Bible. I have no white family: all on the farm except myself, are negroes, most of whom belonged to me before the war. After supplying the family with honey, I distribute the surplus gratuiously among my neighbors. I have a substantial and permanent shelter over my bees, which protects them from the cold and rain and snow of winter. I never move them from their summer situation and have never lost a colony from exposure to the winter's cold.

HENRY FAULS, of Council Bluffs, Iowa, makes the following exhibit:—He says "a lady can take care of ten swarms, with less labor than is required to take care of an ordinary lot of house plants. Faul's number of swarms last spring was nine; valued at $10 per swarm, $90. The increase was six swarms—total fifteen swarms. He sold eight swarms for $80; two hundred and forty-one pounds of honey, at 35 cents per lb. $84.35. He saved for his own use thirty pounds valued at $10.50. making a total realized of $174.85. He has seven swarms on hand valued at $70, making $244.85, and the original cost being $90, leaves Mr. Fauls a net gain of $154.85."

M. VOGLE, a pioneer at the head of Pine Lake, Mich., writes:—"THE AMERICAN BEE JOURNAL is a very wecome visitor at my house. May it prosper forever."

JOHN L. CRABB, Onawa, Iowa, writes: "I am highly pleased with the consolidation of the National with the ANERICAN BEE JOURNAL. I commenced last spring with eleven stands and increased to over thirty, and took several pounds of surplus honey, both extracted and box. It would make you laugh to see my honey extractor. It did not cost me anything, only a little time. I can make one in half a day, that will sling a barrel a day."

J. W. MCKINNEY, M. D., Camargo, Ill., writes:—"The present consolidated form of the "JOURNAL," is not to be excelled by any publication on aparian literature in America."

American Bee Journal.

THOMAS G. NEWMAN, MANAGER.

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We have received so many flattering encomiums on our Chromo "JUST ONE" from our subscribers who have received it, that they would fill a number if we should attempt to print them. We appreciate the letters, but cannot publish them for want of space.

For the American Bee Journal.

For Lectures.

MR. NEWMAN: Dear Sir, According to your remarks and those of Mr. H. A. King, I see there is room for bids for those who are willing to accept a chance to lecture on apiculture. Put me down on the lowest seat, of that list, "for lectures." My time is precious and valuable and I have engagements now until Jan. 22nd, but I am always willing to do my part with common labor of that class called bee-keepers. I would say to those interested, enquire of Mr. H. A. King, New York; J. W. Winder, Cincinnati, O.; or Mrs. E. S. Tupper, Des Moines, Iowa, concerning my ability, as they are practical apiarians. My terms are R. R. and hotel fare from Pittsburgh, Pa. It takes two days and costs $5 to go to and from my place to Pittsburgh, but call Pittsburgh my starting point. I will go anywhere in the United States, and no other charges unless it requires more than three days from time of leaving Pittsburgh, until I return there; and for all time over that, I must charge $5 per day. I don't ask anything in advance, but the payment of charges must be secured by deposit in a bank of sufficient amount for expenses to my credit, to be paid on presentation of receipted bills of R. R. and hotel. Best to organize in the morning, have a general talk in the afternoon, lecture in the evening and follow by queries. I will stay longer and give practical lessons, at $5 per day. Notice should be given in time, if practical lessons are wanted.

Simpson's Store, Pa. W. B. RUSH.

We have concluded to continue our offer of the beautiful Chromo, "JUST ONE," to all who will pay up at once for the year 1875, and also to all new subscribers for 1875.

One of our advertisers writes us that he gets more answers to his advertisement in the AMERICAN BEE JOURNAL than from all other papers put together.

We have received a report of the Michigan Bee-Keepers' Convention. It was received too late for this issue and will appear in the February number.

☞ That excellent monthly *Purdy's Fruit Recorder* has been removed to Rochester, New York, where it will be published in future.

We do not give our Chromo when subscribers club with other publications, unless they add 25 cents to the amount of the club subscriptions, and say they want the Chromo.

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CEDAR RAPIDS, FEBRUARY, 1875. No. 2.

A Scientific Mare's Nest.

* * * * * * * *

Prof. A. S. Packard Jr., has discovered a mare's nest in the realm of bee-keeping. He announces his discovery in an article headed "The Busy Bee" contributed to the Chicago *Advance* of Jan. 7th 1875, He says. "Notwithstanding the large number of bee-keepers with more or less leisure on their hands, and honey-bees by hundreds of thousands in the United States, and the many interesting questions constantly arising regarding their economy. *The bee has not yet found a biographer on this side of of the Atlantic.* * * "He then goes on to say, it has been reserved for one of the busiest of men to study that busiest of insects, the bee. Sir John Lubbock, banker, M. P., Vice Chancellor of London University, entomologist, anthropologist, fox hunter, and what not,—he it is who has played Boswell to the honey-bee, and "noted the daily and hourly doings of the hero of the hive."

We are exceedingly glad that such a very busy man and one so shingled over with titles and honors, has had the inclination and found the time, to study the habits of the bee, and give the fruits of his investigations to the world. Nor can we have the slightest objection to Prof. Packard's trumpeting forth his praises in *The Advance*, or any other newspaper, whether secular or religious. But we can't permit him to write up his wonderful Englishman at the expense of truth, and at the expense of the reputations of "the large number of bee-keepers" on the American continent. What a discovery this is of the Professor's that "the bee has never found a biographer on this side of the Atlantic." Where has the learned Professor spent his days, that he has never heard of Langstroth, Quinby, Wagner, Kirkland, Gallup, King, Thomas, Root, Mrs. Tupper, and a host of others, who have played Boswell to the honey-bee, and noted "with a loving minuteness, the daily and hourly doings of the hero of the hive," giving the results of their observations to the public in the shape of books, pamphlets, periodicals, letters and scientific papers well nigh innumerable? His prodigy of acuteness and industry, Sir John Lubbock, has discovered nothing with which all intelligent bee-keepers are not thoroughly acquainted, except those two startling things: *first*, that bees are unable to find honey at all hidden except by accident, and *secondly*, that when a bee happens to light upon honey in a rather by-place, or is carried to it by some scientist like Sir John, it has no means of imparting its knowledge of the store to other bees. Now having seen a pretty full report of a lecture by Sir John, embodying the substance of the pamphlet which has thrown Prof. Packard into such raptures, we find the first of these amazing discoveries if not indeed both of them contradicted by the great discoverer himself. Referring to the pertinacity with which bees pursue honey, he cites the fact that they will go for it even into "sweet shops," where multitudes of them perish. How does this happen, if instinct does not guide them to by-places where sweets may be found, and if one bee cannot, in some way, impart information to another? We can only say that Sir John's discoveries, as announced by the learned Professor in *The Advance*, are at variance with the experience of bee-hunters and bee-keepers on this side of the great Atlantic fish-pond. In hunting for bee-trees, dependence is put on the instinct and communicative power which Sir John denies to bees, while the robbing of isolated hives, and the gathering of honey in all sorts of out of-the-way places, point to conclusions the very reverse of those arrived at by the scientific baronet.

Prof. Packard remarks, "It would seem that bees have enough intelligence to guide them in conducting the affairs of the hive." Well now, that's very astonishing, especially when you come to think that this was the identical end for which they were created. Its very like observing, with a note of exclamation, that birds, fishes, animals and insects generally, have intelligence enough to fill their respective spheres. Certainly the universe would have been very badly contrived, if this had not been the case.

C.

Seasonable Hints.

The impression prevails that the winter is the best time in which to move bees from place to place. In our opinion this is not correct. We prefer to move them at almost any other time. If it must be done at this season, a warm, instead of a cold time should be chosen, and at the end of the journey it is best to put them at once into a room or cellar quite warm and dark, unless the weather is so mild that if left out of doors the bees can fly.

A neighbor moved ten colonies in a very cold day last winter, putting them, when he reached home, into an out door building. Many of the bees were lost and the remainder had dysentery, so that but two or three were saved out of all the ten colonies. Had they been put into a warm room until the agitation was over, the loss might have been avoided.

The principle is obvious. The bees when disturbed and alarmed, filled themselves with honey, the cluster was disarranged, and the bees scattered through the combs. In a warm room in the dark, the agitation would have subsided and the cluster become perfect again ; but left exposed to the cold, the scattered bees being full of honey, all perish.

From March to November bees can usually be moved any distance with safety, under proper precautions ; but between November and March, only those who are well informed as to the principles that govern the matter should attempt their transportation. We know bees are moved in winter, and moved safely but it is purely accidental. If they have honey enough and bees enough for safe wintering, the chances are largely against their being moved well. If one knows enough to take the honey from them first, and feed them again judiciously afterwards, it may be done ; though then, all is greatly dependent on the weather. T.

British Bee-keepers' Associaton.

Below we give the Introduction and also the object of the First Exhibition of Bees and their Produce, Hives, &c. held by the British Bee-keepers' Association at the Crystal Palace, at Sydenham near London, last September. We commend them to the careful attention of all those who have anything to do with Fairs and Exhibitions in this country. We have not space for the whole Premium List or numerous entries made, but these extracts give a good idea of its aims. We see that our friend, W. Carr, had a large and interesting collection, as follows.

305. CARR W.—Specimens of Ligurian Queens, Workers and Drones, Egyptian Workers and Drones,—Nest,—Brood comb and Bees of the Trigania or Exotic Bees from Honduras, Hornets, Wasps and Humble Bees with Nests,—combs, Royal cells and Wax scales of the Honey Bee ; combs, showing the ravages of the Wax Moth with the male and female Moths.

Large Paper Cells showing the Bee's economy, Ten large Pen and Ink drawings of the Honey Bee, viz: The Internal Anatomy, The Bee's Stomach, The Queen's Ovaries, The Bee's Head, The Bee's Leg, The Bee's Sting, The Bee's Wing, The Bee's Autennae, The Bee's Abdomen, Showing the Wax Scales.

Hexagonal cells, Showing the Angles enlarged twenty times.

Super of Honey, 87 lbs.

Who will begin now to make a collection of equal value and interest for our Centennial Exhibition ?

We need a change in all our Exhibitions and Fairs, and we are especially glad that at the last meeting at Pittsburgh, steps were taken to avoid premiums for bees, queens, &c. We hope and expect this to be the beginning of better days' as far as exciting an interest in the objects of the Society are concerned.

The following is the Introduction to the Premium List:

BEES AND BEE-KEEPING.

From the earliest ages, *Honey*, the produce of the Bee, has been in all civilized countries an esteemed luxury of the human race ; and Wax at great commercial value, as well as a useful adjunct for domestic use, sometimes to illuminate the halls of the noble and great, at others to brighten the humble furniture of the thrifty cottager.

The busy merchant, when wanting a symbol of industry for his house, could find no better sign than the "Bee-hive"—how common the axiom "a very hive of industry"—the poet and the moralist failed not to quote our little friend as an example to the young, and the beautiful rhyme of Dr. Watts, of "the little busy Bee," can never be forgotten as a memory of our early days, and in ages to come will be taught to our children's children

with the same loving wish of as good results as we hoped for us.

How then have we requited our little friend? For shame, be it said, by *robbery arson, and murder*. For centuries the almost universal practice to obtain the sweets of the hive has been by destroying its inhabitants by fire and brimstone, and appropriating the whole of their gathered riches. With as much reason might the farmer slaughter his sheep to obtain their fleeces. Spare the laborers and they will work again ; and after the toils of a busy summer, grudge not a portion of their gathered harvest to preserve the lives of those who have labored so hard.

The British Bee-keepers' Association was instituted in May last, for the purpose of advancing the cultivation of Bees, and particularly to bring to the notice of cottagers and others, more scientific, profitable, and humane methods of apiculture than has hitherto been generally practised. Our rural districts, from the fertile valleys to the mountain tops, wherever fruit, seeds, and flowers grow, offer pasturage to Bees. No rent to pay! No trespassers! Every farmer, every gardener, gladly welcoming the busy Bee! Darwin tells us that to Bees (of another species truly) we owe the very existence of red clover. Learned men remind us that the beauty of our fields and gardens, and the maturity of our fruits and seeds, are in a great measure attributable to Bees, who in their flights from plant to plant, unconsciously distribute the pollen by which the flowers are fertilized.

Thousands of tons of honey and wax are annually wasted in our native land, which might be profitably gathered by Bees, and the money expended to foreign countries for Bee produce, put into the pockets of our rural population. There is no reason why every man, and women too, who has enough of garden room to stand a hive upon should not keep Bees. Any man who can make a rabbit-hutch can make a Bee-hive for use, as good as the best, and those who can afford to buy may gratify their taste or suit their pocket by selection from the many very good patterns now on view.

A glance at our Catalogue and Honey Show will prove to the enquirer that the profits of Bee-keeping are not to be despised. A stock of Bees may ordinarily be obtained for about £1—a little more or less according to the district, and instances will be found at this Show where the marketable value of the honey obtained this year, from a single hive, equals as much as six or eight times the orignal value of the stock, which is yet maintained to work again another year! Such is the result of *good* management, which the Association would like to find general. Now a few words as to the danger of being stung. Bees are never aggressors without cause ; treat them kindly, or let them alone and have no fear, for you will never be stung. Children soon find this out, and play about the hives as merrily as usual, gaining a lesson in industry and additional pleasure by watching the return of the laden workers.

JOHN HUNTER, *Hon. Sec.*

Notes AND Queries

Is there any demand for empty comb, and at what price ought we to sell it? I have about 500 empty combs, 12x16 inches in size, nice, clean and straight; and also a quantity of clean white comb of all sizes and shapes. Where can I sell, to whom, and at what price? W.

There is a good demand for such comb in frames, though the size you name is not a common one. We have paid $1 each for such combs, perhaps no one else would give as much. Would advise you to advertise it, and get all you can for it, if you cannot use it yourself. As to the clean white comb in pieces, you can sell it to any dealer who is putting up honey for sale in jars. If you have much, it may pay you to advertise that also.

C. W. inquires if there has been any improvement within the past five years in making artificial comb; and says, "the one who perfects any thing in the shape of comb in which bees will work, will be the greatest benefactor of all bee men."

We agree with him so far as to fully appreciate the importance of artificial combs to bee-keepers. We know that Mr. Wagner was still at work perfecting dyes for the making of his combs at the time of his death, we are not informed as to his progress further than that. Mr. Quinby's artificial comb was a success so far, that the bees used it raising brood and storing honey. Why he has ceased using it we are not informed, or in what respect it failed to answer his expectations. We are sure the time is not far distant when we shall have combs made by men, that will be accepted as good by the bees. In the meantime we may, by proper management, stimulate the bees to build comb in good frames ; and to do it when they would not be storing honey. Then if we cease to sell honey in the comb, we shall have a better supply than we have had in times past.

I wish to begin the bee business. I am offered ten colonies at $10 each. Is that too much? and how am I to tell if they are good colonies? C. G.
Missouri.

The price is not out of the way for *good* colonies of black bees, if they are in moveable comb hives. We would not advise you buy without examination, and if possible to defer until spring.

Early in spring they ought to weigh near 20 lbs. and have a cluster of bees that extend at least, between four combs. It is hard to give a novice directions so that he can tell exactly the value of the bees he buys, and we would advise you to have the counsel of some one that has experience, before purchasing, unless you know you can rely on the one of whom you buy, to give you only colonies he can warrant good.

Please tell us what colored honey Alsike, Lucerne, Catnip and other plants make.
JAMES MARKLE.

Alsike clover gives us a light colored honey of greater thickness than white clover, and of as good if not better flavor. We know little about the honey from Lucerne, and reports are so conflicting about its value as a honey plant, that we prefer to ask for "more light," before expressing our opinion. Golden-rod gives a very yellow honey; that from Aster is not so dark though of better flavor. Doubtless the color and flavor of honey from *all* plants, varies with locality and soil. All who know anything about Sorghum syrup, are aware that much depends on the soil where it is grown, and just so we think honey is changed by soil.

Please tell a beginner how to fasten movable frames securely, when moving some distance. H. LIVINGSTON.

In most cases it is only necessary, in moving bees, to drive a small nail into each and every frame and fasten them securely on the top. This is easily done, after smoking the bees so that they will not resent it. After doing this, put the cap on tight and fasten the entrance up, either with wire cloth, or a piece of wood, in such away as to give them air, while confining them. We have found no difficulty in moving bees prepared in this way, Jolting should be avoided as much as possible, and the less honey in the hives the safer they will go.

I am using Langstroth hives, but find great difficulty in getting bees to build in the upper chambers. What is the cause? Last spring I had 22 colonies, when the wet weather set in; when it closed, my apiary was reduced to 9 colonies. I took 400 lbs. of honey. It became crystalized early in the fall, notwithstanding I kept it in a dark place. I have let my bees remain out this winter, have them wrapped in straw; they are keeping well, so far. I am very much interested in the JOURNAL.
Tenn. MRS. M. G. MARRISS.

Without knowing more about your hives, we cannot tell why the bees do not build in the upper chamber. Different causes may produce it. The openings into the super from the main hive may be too small, (we would always remove the honey board in such cases). There may have been too small a number of bees to enable them to have sufficient heat in the chamber. Below, the hive may have been so full of honey that the queen has been cramped for room and the bees are in consequence reduced in number. There is something wrong in a fair honey season if bees in a healthy, strong colony do not work in every part of the hive. If there are bees enough, they will work, if honey is being secreted, wherever they can find space.

Honey will granulate in all places and under all circumstances, it seems, contrary to all rule. Instead of that being a disadvantage, it is rather in your favor, since it proves that it is unadulterated. After it has granulated it will keep any length of time and can be restored to a liquid form by warming it, with very little trouble.

There is an increasing demand here for honey in the granulated state; many people preferring it so. You speak of honey as "crystalizing"; sugar syrup might crystalize, but honey granulates. There is a great difference between the two words or rather the states which the words represent.

LOCAL BEE-KEEPERS' SOCIETIES.—Some correspondents have written to us, enquiring how to organize local societies of bee-keepers. We answer, do it as simply as possible. Very little machinery is needed. A President, Secretary, Treasurer, and Committee, are all the officers required. A few rules, prescribing the membership fee, times of meeting, order of business, and so forth will be sufficient. In view of the privileges accorded by the North American Bee-Keeper's Society, it is advisable to organize as auxiliary to the general body, and we hope that many such organizations will be found in various parts of the country during the present winter. C.

The Report of the "Michigan Bee-Men in Council" is so long that many other good articles are laid over for want of room. The Michigan Bee-Keepers had an interesting meeting, and the Report will be read with interest.

Michigan Bee Men in Council.

KALAMAZOO, Dec. 16th, 1874.

The seventh annual session of the Michigan Bee-Keepers' Association convened in Corporation Hall, at two o'clock, p. m., President Balch in the chair. Notwithstanding the universal complaint of hard times, the attendance was unusually large, evincing a growing interest in this fascinating pursuit.

After the transaction of some preliminary business, the convention listened to an Opening Address by President A. C. Balch, welcoming the members to the hospitalities of the large-hearted and whole-souled people of this lovliest of villages—Kalamazoo.

The regular programme of the convention was then taken up. Secretary Burch read a paper from Charles Dadant, of Hamilton, Ill., on the best size of frames, in which the writer strongly favored a large frame as giving the greatest advantages to the apiarian. He also urged that American apiarians adopt a uniform-size standard frame, as being a long sought desideratum; in proof of which he cited the beneficial results that had followed such adoption in Italy. The paper elicited much discussion, the most important of which we give, as follows:

James Heddon—Large frames, the size of Quinby's, are, in my opinion, too large. I prefer a small, shallow frame, as it offers the most advantages, and gives the best results in amount of box honey. It has been almost universally recommended that a hive should not hold less than 2,000 cubic inches; yet a smaller size will give better proportionate results. It is better not to give the queen all the room that she will use, than go to the opposite extreme. Quality of bees, and not quantity is what we should aim to get.

Dr. A. L. Haskins—I use the American frame, 12 inches square, and think it about the right size. I like it better than Quinby's.

Prof. A. J. Cook—In this country of Yankee ingenuity and invention, it will be quite impossible to adopt a standard frame, as scarcely any two apiarians will agree on any one size, much less the whole fraternity. I have experienced much difficulty in handling the Quinby frame, in having the combs fall out, which is decidedly unpleasant. The bees do not fasten large combs as securely as smaller ones. They are inconvenient for queen-rearing, which is objectionable, as all bee-keepers wish to raise queens for their own use. I prefer the Gallup frame, as combs do not break out so easily, and are more convenient for rearing queens. They are also better for wintering, as the bees are in a compact cluster, just as they should be. Bees that cluster in an oblong shape, as they do in Langstroth's will get away from the outside of the cluster and die.

C. I. Balch—Would not a shallow frame obviate dampness better than a deeper one?

Prof. Cook—Such has not been my experience.

T. F. Bingham—Thought the subject an important one. Give a beginner a good hive, and good advice in the shape of a good text book, and if he has good judgment he is almost sure to succeed. If I used the Langstroth frame I should think a standard frame desirable. Small, shallow combs give more brood early in the season. Large combs obstruct the easy passage of the queen to various parts of the hive—shallow combs obviate this difficulty. Heat ascends sooner than it radiates; hence, in tall hives, it is lost. In wintering bees we should keep them near the bottom boards, and it will not get clogged up with dead bees. Early in the season the queen will lay in one or two large frames; in a series of smaller ones much more. Again, small, shallow frames are much easier to handle. There are but two methods of obtaining box honey successfully. Either use a tall, narrow frame, and side boxes, or a long, shallow one, and top boxes. Small frames are more convenient to manipulate in extracting. I prefer a cloth quilt, hemmed in beeswax, in place of a wooden honey board.

J. H. Everard—Large frames are objectionable; too heavy to handle. In visiting Mr. Bingham's apiary, had witnessed the best results with a long shallow frame, only six inches in depth.

C. I. Balch—Have always used a frame nine inches deep; would use one not to exceed seven inches, were I to commence again. Mr. Bingham once advocated a deeper frame.

T. F. Bingham—And would to-day, if obliged to winter out of doors. By the aid of a good bee-house they can be safely wintered in shallow combs.

Dr. Southard—Use only the regular Langstroth frame. Were I to change, would make them smaller, and more shallow.

Mr. Bryant—Have used ten Bingham frames to the hive, with good results. Have used sectional hives but do not like them. Bingham's gave the most box honey.

Prof. Cook—What is "box honey?"

Pres. Balch—Honey stored by the bees in small glass boxes.

Geo. Stray—I get more brood early from a shallow oblong frame than from a deeper, square frame, and consequently more honey. In wintering, have no mouldy combs. Leave hives on summer stands, pack well with straw keeping it dry, and bees will winter well.

Prof. Cook—I would like to hear from those who use deeper combs. I hope we shall not fall into the error that honey can be obtained only by the use of shallow frames.

Mr. Bryant—My twenty-five stocks in shallow, six-inch frames gave me over 3,600 pounds of box-honey.

H. E. Bidwell—I have used all sizes and shapes of frames; now I prefer a frame one inch deeper and one inch shorter than the Langstroth. It will give more honey, but is more trouble to winter successfully than deeper combs.

James Heddon—Years ago I took the tops off from box-hives, putting on a honey-board. In using all sizes and shapes I found that a hive 22 inches deep often gave just as much box honey as one only ten. I prefer the latter depth in movable comb hives, as we get a small hive in better shape, offering greater advantages in manipulation.

Mr. Helleney—Am using Langstroth hives; think them preferable; can get more honey from an extra set of combs on top, than from boxes.

James Heddon then favored the convention with an address on the subject of "The Art of Getting Honey into Money," the prominent points of which we give below:

Apiarians who raise extracted honey, are

now obliged to compete with cheap syrup and glucose in all the large cities. Exclusive honey dealers adulterate our honey with this stuff, thereby making one pound of honey sell seven or eight pounds of glucose. Had agitated this subject years ago, and now the dishonest practices of these dealers demand that we met the question squarely and firmly, or else we shall soon have no market for our honey—it will be utterly overstocked. If we put only a good article on the market, and continually keep it supplied, we can create a demand for our honey, by educating the people's taste for a prime article. Make honey a staple article. Honey dealers will buy honey, and *promise* to pay, and sometimes will do so, after selling it at double the price, besides selling eight or ten times as much glucose, worth seven or eight cents per pound. We ought to adopt the grange principle of combination, control our own products, and sell direct to the consumer. We must discriminate between the products of an apiary and a honey-house. Teach the people who eat honey, that the former produces honey—a pure article; the latter a conglomeration of honey, glucose and poor syrup.

C. I. Balch—Many people like to be humbugged, and will buy a spurious article in preference.

James Heddon—Honey dealers have created a demand for jar honey with a little comb in it, as much as to say, "Liquid honey is not good, so we'll put in just a little that is." This ought to be abandoned at once, as extracted honey is even better, because wax is not a wholesome article. I know from experience that, despite prejudice, the people who eat it, learn to prefer it.

C. I. Balch—Can honey that is candied in the comb be liquified?

James Heddon—Honey candies from cold. Put it in a warm place and it will liquify, though it takes time.

Pres. Balch—My bees will carry candied honey out of the hive in spring.

James Heddon—If you put a comb of such uncapped in the middle of the brood nest they will utilize it.

Prof. Cook—Honey is only a kind of sugar. The various kinds are quite readily told by the temperature it will grain. Nearly all syrups are adulterated. How then can we stop adulteration?

James Heddon—If you find a dealer keeping an adulterated article, publish him. Printer's ink works wonders, sometimes.

J. H. Everard—Create a home demand by keeping a good, pure article.

Mr. Bryan—Detailed his experience in mixing syrup and honey; thought it didn't pay.

James Hedden—Bee-keepers can raise the pure article cheeper than they can manufacture it.

T. F. Bingham—We might undoubtedly create a demand for honey, but it is easier to cater to a demand that already exists. Every man likes his own wife's coffee best. People who have long eaten comb honey prefer it.

After some further discussion, the Convention adjourned until evening.

At the evening session, among the papers read was the following by Prof. A. J. Cook, of the State Agricultural College:

FEEDING AND THE EXTRACTOR IN RELATION TO PROFITS IN APICULTURE.

Success in bee-keeping as in every other pursuit that looks to nature or natural phenomena for those prospective profits which make the heart glad, demand that we understand and take full cognizance of the science underlying those phenomena. To be sure ignorance *may* succeed, while full knowledge removes success from the realms of doubt.

Now, as a preface to this essay, let us recall some of those facts, which science has developed, which have a bearing on the subject matter in hand.

Science determines that, in the economy of the hive, the older worker bees gather the honey, the younger do the work of the hives, as comb-building, feeding young bees, etc., while the instincts and structural nature of the queen impel her to do the work of egg-laying alone. Moreover, science taught very early in the world's history, that the instinct of all these classes of the hive incited them to an industry which knows no abatement, save as the stern hand of necessity is laid upon them. Thus the gatherers work with unparelleled asiduity, so long as there is honey to gather and room in which to store it. The in-door laborers build comb so long as room and the proper internal arrangements of the hive permit. While in the queen, a stronger instinct still causes her to labor untiringly in her work of egg-laying, yet leading her to pause, not simply from necessity but often from probabilities as well in that the queen ceases from egg-laying when the gatherers cease from storing. Can it be that parental solicitude for the welfare of her offspring, makes her, even in the face of desire, to withold from sending children to brave scarcity, want, mayhap starvation. What lessons has nature for those wise to read.

Such breadth of instinct, seeming to reason upon surrounding conditions, and what is more wondrous still, seeming to comport with structural pecularities, is not alone peculiar to the queen bee. The male pigeon for example feeds the young, and with the hatching of the young fledglings, comes a peculiar development of the crop, which assists in the preparation of suitable nourishment. Here too, then, structural conformation, has relation to a peculiar instinct, which takes note of outside circumstances. Another example is found in the common high-holder, Colaptes Auratus, which usually lays six eggs. Yet if the eggs are taken from the nest, the bird will continue to lay often to the number of thirty, which number was actually taken from a nest at our college, by Prof. W. K. Kedzie, now of the Kansas Agricultural College. Here again then we notice that instinct varies with circumstances, and is attended by a structural change of the ovaries.

Hence we see, science teaches that to have honey stored, we must have, not only bees, but honey secreted by the flowers, and room in the hive to store the same. And again, to have bees to store, we must keep the queen laying eggs, which demands, not only room for the same in empty cells, but just as imperatively that storing is continued.

Now, let us see if these requisites are always at hand, without care and labor by the apiarist.

Suppose, as true of us at Lansing during the past season, we have an excessive yield of honey from the fruit blossoms, during May. The workers ever on the alert for such opportunities, will, in the two weeks of rich harvest, fill every cell in the hive with the precious nectar. What then? the queen, like Othello, finds her occupation gone, for if in the interim between fruit and white clover blossoms, the comb-builders do ply their calling, which in the general indolence of the hive, is not likely; still in the midst of idleness the queen will not even improve such opportunity. So with clover bloom, we have a depopulated colony all unprepared to make the most of this, the golden era of honey gathering. Yet, even with the fewer bees, insures a repetion of the fruit season experience. With a good harvest of clover, such as the past season gave us, comes storing to repletion, and ruinous prosperity again confronts the apiarist. From white clover to basswood, comes a repetition of former experiences, only augmented, of course, so that the longed-for period of basswood bloom, finds the apiary with depleted colonies, all unprepared to reap the rich reward which a bounteous honey harvest presents. More than this, it never rains, but it pours, as the moth comes to make havoc with colonies too feeble to offer successful resistance. Now, if all these seasons of fruitfulness to the bee-keeper have been productive, as during the past summer, we go on from bad to worse, as we near the period of buckwheat, and golden-rod. And thus Autumn finds us with feeble colonies, small returns, and long faces, when nature has been most propitious.

After September we have no gathering, brood-rearing ceases, we approach winter with what few bees we have, old, torn and gray with labor, and ere spring, even these succumb, and what wonder if we say, "bee-keeping is played out." For in just such ways does it far too often become a source of vexation and discouragement.

Now is there no escape from these perils? With the science full in mind we see that if we can only keep the bees supplied with empty comb, enabling both worker bees and queen to meet their fullest capabilities, and more, can keep the worker bees constantly storing, so that the queen will be stimulated to her best efforts, even in the interims of honey secretion, we shall meet both the above difficulties, and shall welcome such seasons of infinite honey secretion as the past has been, with unalloyed pleasure. Now, thanks to Herr Hruschka, of Germany, we are enabled by the use of the honey-extractor, which his inventive genius gave us, to accomplish the former, and by feeding limited supplies during the periods of no gathering, using this same extracted honey, should it not find a remunerative market, we meet the second difficulty. Here, then, in use of the extractor, and by judicious feeding, the apiarist has power to leap one of the greatest obstacles in the way of success. And just here let me say that I fully believe that in this use we receive the greatest benefits of this indispensible machine. By its use, during the past summer, we have been made to rejoice in one of the best honey seasons I have ever known. Those who have not used it, have fallen far behind in the amount of profit received. Early during the past season there was an astonishing yield of honey from the fruit blossoms, so that we experienced a pecularity, new to me, of having our combs filled with this early honey.

Do you ask me then, when I would extract, and when feed?

I answer that I would extract whenever it was necessary to give the queen empty cells, never allowing all the cells to be filled with honey and brood. Whether I would use it at other times, would depend on the market for extracted honey. If I could find ready sale for such honey at 15 cents per pound, I should extract a good deal at other times, especially in the fall, as it is valuable to have empty combs in the spring as by their use we can most easily obtain non-swarming hives.

I would feed sparingly, obliging the bees to carry the honey into the hive from March till October, whenever the bees were gathering no honey. Do you urge the trouble and labor involved? Let me assure you it will prove the most remunerative, expended in your apiary.

Very likely some of you will desire to know where to obtain the best extractor, and how to feed in the most convenient manner.

So far as I know, there is no better extractor made than one sold by A. I. Root & Co., Medina, Ohio, for $10, or made to fit his standard frame which is 11¼x13¾—$9. Just the gearing, I think, can be procured for $2, in which case, each of us can finish to suit himself.

As to feeding, if we have a close chamber above the brood chamber, all we need to feed is a common tin or wooden box, with a bottom of coarse cotton cloth. Setting the box over a hole the same size in the quilt or honey board, the bees will come up and sip the sweets as they ooze through.

Cloth bags nailed to the top bar of a frame which has a lobe through it and placed in the hive in lieu of one of the frames of the comb, as recommened by "Novice," will be cheap, convenient, and easily set aside when not needed.

EVENING SESSION.

The first topic, "Feeding,—How, When, and Why," was introduced by a paper from Prof. A. J. Cook, of the Agricultural College, favoring stimulative feeding, in times of scarcity, to promote breeding; also of the value of the extractor in times of great honey secretion. The subject was discussed as follows:

T. F. Bingham—Did the bees store from apple blossoms to exclude the queen?

Prof. Cook—They did.

T. F. Bingham—Did you have forage from earlier sources?

Prof. Cook—Yes.

T. F. Bingham—At that time of the year (last of May) the hive should be full of brood.

C. I. Balch—In times of scarcity of forage, uncapping the honey in the hive will promote breeding.

T. F. Bingham—You might just as well feed chips to induce brood rearing as honey. If bees are gathering pollen, as they usually are in warm weather, and have honey in the hive, the brood will be abundant. Feeding for this purpose is useless. Bees have little discretion—man should have it for them.

Prof. Cook—My bees would not breed when gathering pollen and no honey, and my queens were "yellow," too.

J. Tomlinson—I have had combs stored full of pollen, but got little brood.

Prof. Cook—Would Mr. Bingham ever feed stimulatingly?

T. F. Bingham—Never. Its requires lots of discretion, which our family don't possess. It may do for amusement, the same as boys play marbles.

J. H. Everard—Don't localities differ?

T. F. Bingham—I think bees will gather enough in any locality—usually too much for the benefit of the bees. Bees do not collect honey or pollen because they need it, but because it's their instinct—bees have no reason.

President Balch—Hives that have an abundance of pollen, do not work as well on flour in the spring as those that do not.

Mr. Walker—I tried every method last spring to get brood early, but failed until natural pollen came in, though they had eggs all the time.

Prof. Cook—I had some stocks with no pollen; stimulated, and got lots of brood. Commence the 1st of April, feed regularly, and you'll be surprised at the amount of brood. Though others claim that brood can be raised without pollen, I don't believe it.

C. I. Balch—Did you ever mix honey and pollen together and feed it?

Prof. Cook—I have never tried it.

H. E. Bidwell—Bees cannot brood without pollen; uncapping honey in the hive is a good method to promote breeding.

T. F. Bingham—If one has lots of leisure, it would be good exercise to take a carving knife and go around through the apiary and "carve" 200 stocks.

James Heddon—If your combs contain an abundance of pollen, feeding will pay well. Have tried every plan of feeding, and prefer to fill a Mason fruit jar, puncture the cover full of fine holes and invert it over the hole in the honey-board. It will not leak, and you can see at a glance just how fast the bees are taking the feed. Fed sugar syrup in this manner last fall, for winter stores; it is equally good for stimlative feeding. Bees in small hives will have lots of brood, when those in large hives will have less, as they fill up the brood combs with honey. Do not like Root's extractor—it's not strong enough.

Prof. Cook—What one would you use?

James Heddon—I make my own, after having tried several others.

T. F. Bingham—Extractors, to be durable, must be strong. In extracting, we are often compelled to do it in a hurry, as honey sometimes comes with a rush. Would use up a Novice machine in a half day's run. Use a revolving can machine—a Peabody machine, Bingham-ized. Can extract more in a day from black than from Italian bees.

C. I. Balch—Black bees run off the combs, making it easier to do a big day's work.

James Heddon—I can extract honey so solid, that a revolving can machine would not touch it. As Mr. Burch helped me extract some honey a short time since, I wish to ask him if he thinks any other machine would have done the work.

H. A. Burch—I have seen no other that does as good work.

A paper was then read by the secretary from James Bolin, West Lodi, Ohio, on the best manner of "Wintering Bees." H. E. Bidwell, of South Haven, Mich., read a paper on "Wintering in Cold-Frames."

J. Tomlinson—How many swarms do you put in each cold-frame?

H. E. Bidwell—Sixteen, two deep. Size of frame 6x12 feet, and three feet deep.

J. Tomlinson—Would not a conservatory do?

H. E. Bidwell—It might, but is not necessary. Besides it's too expensive.

J. Tomlinson—How far is the glass above the hives?

H. E. Bidwell—About six inches.

C. I. Balch—Do the bees cluster on the glass?

H. E. Bidwell—Not if the temperature is right. It should not be too cold, nor too warm—about 70 degrees is the best.

H. A. Burch—What is the slope of the glass.

H. E. Bidwell—Eight inches in six feet.

Prof. Cook—Would you confine the bees to the frames in spring and let them work on flour?

H. E. Bidwell—I would. They worked freely on it last spring. Would let them fly occasionally—once in four weeks is often enough—keeping the frames well covered in the intervals.

Dr. Southard—Am trying the experiment of packing hives in a box with straw, so as to guard against sudden changes of temperature. Each box holds 16 hives. Think this better than a cellar, as mine were uneasy when thus housed. Had them covered with quilts which I think injurious. The cellar was well ventilated—mercury 45 degrees.

A Member—Do not bees when flying in winter go back to the summer location when removed in the fall?

Dr. Southard—Mine do not.

C. I. Balch—As much stress is laid on keeping bees quiet in wintering, I would like to hear from Mr. Miliner on this subject.

Mr. Milner—I have wintered stocks that had no honey in the fall, by feeding during the winter. The bees were kept in a house cellar, under the living room. When my bees are quiet in the cellar, I stir them up. There are many fine theories that are eroneous.

James Heddon—I think there is an emidemic around the country. If the bees are right you may pound them—they will stand some abuse; but if diseased you must exercise judgment and work hard to save them. I think Mr. Bidwell's plan a good one, yet would prefer a house if that will insure success. Put the bees in carefully; do not let them know it. Carry bees out and in often in spring, if necessary.

C. I. Balch—There may be a bee disease.

Mr. Milner—I have handled my bees only moderately careful for the past four years, yet have succeeded well. They are certainly well stirred up in putting them in the cellar.

J. H. Everard—I have drawn bees over a rough road in cold weather, and they wintered well.

James Heddon—When I took my bees out last spring they were so dormant that I had to stir them up to induce them to fly at once. Wintered without loss, though I had lost nearly all in the previous winters.

A. C. Balch—Bees do not need upward ventilation at any season of the year, much less in winter.

Mr. Walker—My bees that had no upward ventilation died, others did not. They were

wintered in a special repository with a temperature of summer heat—too high. Bees clustered outside of the hives.

A. C. Balch—If the conditions are just right you can seal them up air-tight and they will live. I would prefer a tight barrel to a ventilated hive.

T. F. Bingham—I wish I had had 100 swarms "bottled up" last winter. To prevent mold have the comb "chock full" of honey.

A. C. Balch—Related Prof. Cook's experiment of wintering bees in a snow bank. One hive was sealed hermetically; it came out in good condition.

James Hedden—Can bees live without a change of air in a winter repository?

A. C. Balch—I think they can. In order to insure success, avoid all currents of air, especially in the hive. Have wintered for years in a house cellar, with no ventilation and no loss.

C. I. Balch—In explanation, I would state that the hives referred to are double walled, and will give some ventilation, even when closed so bees cannot get out.

J. H. Everard—Will Mr. Balch give the temperature of his cellar?

A. C. Balch—From 40 to 45 degrees—atmosphere perfectly dry.

George Stray—Will Mr. Heddon state his method of wintering?

James Heddon—My winter repository is 12x16 ft., with a foot wall filled with sawdust. Have shelves, so that each hive is separate. Put them in early, before cold weather. If the weather admits of a good fly, I carry them out, and re-house them before it gets cold again. By this means, losses in spring may be avoided.

Mr. Milner—The temperature of my cellar was 32 degrees—the success was excellent.

T. F. Bingham—Mr. Quinby and myself (showing the similarity of ideas of great men) tried artificial heat in the winter repository. Have had a hot time the past summer—just a little last winter. Without joking, I want a low temperature—32 deg.—to prevent breeding; and then a judicious use of Mrs. Winslow's soothing syrup will bring them out all right. If the bees are kept quiet, the hives and combs will remain dry.

James Heddon—My bees are more quiet with the mercury at 52 deg. than at 32.

Mr. Walker—The temperature in my cellar was so warm that one swarm built comb in an upper section which was occupied by the queen. Many of the bees left their hives and clustered on the ceiling.

A. C. Balch—Your bees were trying to swarm.

The "Question Drawer," a novel and interesting feature of the present session, was conducted by T. F. Bingham. The most important queries and answers we give as follows:

Are Italian bees superior to blacks?

They breed well, but think them no better. They are not good box honey workers.

Are artificial queens as good as natural ones?

They are.

Are queens reared from the larvæ as good as from the eggs?

Think there is no difference.

Are small queens as good as large ones?

Just as good.

What is the expense of raising queens when bees are rearing an abundance of brood?

Merely nominal.

Can you get as much honey with increase as without?

Yes, and you have a swarm ahead.

Which will gather the most honey relatively, large or small hives?

Small hives, every time, if not *too* small.

Which are longest lived, Italian or black queens?

The black queen. Italians have to be constantly imported to keep up the stock. If Dadant could get a queen good for four years, he could stock the whole country with queens.

We would state that although the above answers are at direct variance with the generally received opinions of well informed apiarians, they are not so when taken from Mr. Bingham's standpoint.

The Convention then adjourned to meet at nine o'clock, a. m., to-morrow.

SECOND DAY—MORNING SESSION.

Kalamazoo, Dec. 17, 1874.

The convention was called to order at 9½ o'clock this morning, President Balch in the chair. The secretary read a paper from W. J. Davis, of Youngsville, Pa., upon "Queen Rearing." The best stock to breed from, and the conditions necessary to insure the most uniform and permanent success was considered at length. He urged bee-keepers to use more care and exercise more judgment in rearing queens. The idea that the best queens could not be raised out of the swarming season, was strongly maintained.

J. Tomlinson—Can we not get good queens late in the season?

C. I. Balch—We can, according to my experience.

Prof. Cook—Good queens can be raised late in the season, but it requires more skill and experience.

James Heddon—I have procured a good many queens from W. J. Davis; have found no others equal to them; but do not agree with him in regard to the Darwinian theory of reproduction. Our best scientific men agree with Darwin.

Prof. Cook—Our best scientific men believe in evolution, not in Darwin. Evolution is—life comes from life—from the lowest to the highest. Darwin teaches natural selection,—that the fittest and best survive and the poorer and weaker perish.

Mr. Davis claims that the best time to rear queens is the swarming season; is natural because in accordance with nature. When bees supersede their queens, we have a natural process, yet it is often done out of season, usually in the fall.

A. C. Balch—Bees, in superseding a queen, commence from the egg, but when deprived of their queen use larvæ to supply the loss sooner, which accounts for the difference in quality.

Mr. Bryan—Prolificness is dependent on the age of the larvæ when the cell is started. One day old will make good queens, seven days very poor. Have never seen two queens in a hive at once.

Pres. Balch—There is yet room to learn.

C. I. Balch—Will Mr. Bingham favor us with his method of rearing queens.

T. F. Bingham—Man, of himself, can't raise queens, even with the help of science

—though that will aid us. New comb will make our success more certain. Cut new comb, containing eggs or larvæ into strips three cells wide by ten long. Cut the cells off on one side near the septum of the comb, and insert in an opening made in a brood comb, with that side down in a vertical position; would use five or six such pieces to the hive. Cells built in this way can be cut out without destroying them. Old combs may be used by cutting the cells closer to the septum of the comb.

H. A. Knapp—What place in the brood comb would you insert these strips?

T. F. Bingham—I prefer the centre, though it's immaterial.

Prof. Cook—When bees supersede poor, short-lived queens our stock will grow worse; but one that has been prolific three or four years and then fails will surely produce better stock.

T. F. Bingham—Prof. Cook has struck the key note to success in this matter. The queen that lays well for four years, has a fine organism and good constitution, and will give us the finest queen progeny.

James Heddon—A queen that will live four years, and is prolific, will give us the best queen stock, if reared when she is in her prime—before she commences to decline. The offspring of young parents are weaklings, as well as those very old.

H. A. Knapp—Yes, and oftener.

C. I. Balch—I once reared queens from one the bees were trying to supersede, for 50 stocks, and they were as good as any I ever saw.

J. Tomlinson—Was she a good layer at the time you reared the queens?

C. I. Balch—She had been very prolific—was moderately so at the time.

Mr. Bryan—There must be a natural cause for poor queens. What is it?

H. E. Bidwell—The eggs consist of many small ovals. When the eggs hatch, if to be used for queens, they should be fed as such from the start as they are more fully developed. Eggs from old queens are not as good as from those in the prime of life.

Prof. Cook—Why do cows that have proven to be extra good ones, command a higher price when quite old? Is it not because they will then perpetuate their desirable qualities, with more certainty, in their offspring?

T. F. Bingham—No, but simply because there is no uncertainty about their good qualities.

C. I. Balch—Would Mr. Bidwell breed from a very young queen in preference to an old one?

H. E. Bidwell—I would most assuredly.

Papers on the best method of obtaining box honey were read by the Secretary, from Seth Hoagland, of Mercer, Pa., G. M. Doolittle, of Borodino, N. Y., and J. P. Moore, of Binghampton, N. Y. Many valuable ideas were advanced, eliciting considerable discussion.

T. F. Bingham—Prefer boxes on top instead at the side of the hive, as bees will store pollen in the latter, spoiling the quality of the honey. Have no brood in top boxes if properly managed. If honey comes in fast when building comb, there is no trouble; if not, they must be watched, as the queen might go above.

Mr. Bryan—If you want to obtain the best results, keep the bees crowded—they will then store honey in boxes.

Henry King—I have used side boxes on the Eureka with good results. Was not troubled with pollen.

James Heddon—The fabulous tales we hear of side boxes are a myth. By elevating the back end of a hive we have all the *supposed* advantages of side boxes. To get honey stored above, keep the brood nest well filled with brood and stores. A low, flat hive gives more room on top—just what we want. Honey stored in frames don't sell equal to small glass boxes.

H. E. Bidwell—Put frame honey up in glass and it will sell at the highest market figures.

T. F. Bingham—Which plan gives the greatest quantity, boxes or frames?

H. E. Bidwell—I can get from thirty to fifty per cent. more in frames. Think the difference owing to increased facilities for rapid storing which they afford the bees. It sells just as well.

Mr. Bennett—I can get more honey in frames than in boxes, but must sell it to exclusive honey dealers, and they are regular cheats.

President Balch said the time for the election of officers had arrived. The convention proceeded to elect officers for the ensuing year with the following result:

President—Henry E. Bidwell, South Haven.

Vice-President—Arad C. Balch, Kalamazoo.

Secretary—Herbert A. Burch, South Haven.

Treasurer—James Heddon, Dowagiac.

As the time allotted the morning session bad not expired, an opportunity was presented for volunteer papers and addresses. The Secretary read interesting letters from R. M. Argo, Lowell, Ky., and James M. Marvin, St. Charles, Ill. T. F. Bingham read a paper on "Importing Bees" condemning in emphatic terms the promiscuous importation of Italian bees, and pointing out the danger of such a course. Julius Tomlinson read a paper on "Standard Frames," stating the impracticability of adopting a uniform size, and expressing the opinion that it never could be accomplished.

The convention then resolved itself into an "experience meeting" (to use a Methodist phrase) and many valuable ideas were brought out, the pith of which we give:

T. F. Bingham—Foul brood may be detected in various ways. Hives infected with it have a sickening nauseous smell.

The capping of the brood is concave instead of convex as in healthy stocks, and often has a slight opening as if punctured by a pin. It usually commences gradually, finally destroying the colony, and is very contagious. Procuring queens from infected apiaries will communicate the disease; hence the great danger of the importing business.

J. Tomlinson—Will the Secretary give us his experience with the "New Idea" hive?

H. A. Burch—It is very valuable—makes tip-top kindling wood. For a bee-hive it is worthless.

T. F. Bingham—Artificial swarming is the difference between the instinct of the bee and the will of man. Our success depends much upon our knowledge of the instinct of the bee and the honey resources of the locality. Perform the operation when clover begins to yield honey, so as to have the hive full of comb by basswood time, and you are

then ready to secure that harvest in glass boxes. Put on but few boxes at a time—no more than they can occupy.

James Heddon—The "New Idea" hive will give lots of bees, and some comb honey of poor quality. Will do very well for extracted honey, only it is twice as much work to get it.

C. I. Balch—How small will it do to make hives?

James Heddon—To give us a working force that will keep up animal magnetism, —the essence of life.

H. A. Burch—All who wish to manage bees with pleasure and the smallest amount of labor, should use Quinby's Bee Smoker. It is one of the most valuable implements about an apiary. You can get all the smoke ever needed, direct it just where desired and it is always ready for service.

J. H. Everard—Let bees out in the spring for a flight and then replace them. Sun entices them out and cold winds destroys them.

James Heddon—In accounting for the loss of bees let us be sure that they have not been wintered, often successfully, in previous years, under precisely similar conditions. By this rule, an epidemic is the only explanation, possible.

Mr. Bryan—We can domesticate bees, or rather educate them, so as to be perfectly docile; careful handling is indespensable.

James Heddon—Bees are naturally quiet and peaceable. They are made cross by education—improper handling.

T. F. Bingham—The best educator is a plug hat—they need no introduction to that, but will introduce themselves.

James Heddon—Extracted honey kept for several months is just as good as ever when ungrained.

Mr. Walker—Honey that is heated to the boiling point when first extracted will not grain.

The committee on resolutions—H. E. Bidwell and Dr. A. S. Haskins—reported the following, which were adopted without a dissenting voice:

Resolved That the Michigan Bee Keepers' Association tender to the kind citizens of Kalamazoo, our heartfelt thanks for the generous hospitality they have given us during this session of our association.

Resolved, That we return our hearty thanks to those at a distance who have furnished us valuable papers of great interest to our meeting.

Resolved, That this association return our sincere thanks to the reporters and press for their reports.

The convention was also unanimous in its condemnation of those engaged in adulterating honey, and all other dishonest practices.

The sessions were harmonious throughout and largely attended. It was, in the best sense of the term, a success, evincing a growing interest in this most fascinating pursuit, and marking a new era in the history of apiculture in this country.

Upon adjourning the convention decided to hold a spring session in Kalamazoo, on the first Wednesday of May, 1874.

HERBERT A. BURCH, Secretary.

There is a decided difference among bees as to industry in comb-building and honey-gathering, even where the location, weather and management are the same.

For the American Bee Journal.

Can Bees Winter Without Pollen.

MR. EDITOR.—Several of my correspondents are complaining that they fear they will lose their bees during the present winter, from the fact they have no pollen. I will state a few facts and try to relieve their fears.

In Oct. 1868, Mr. Soloman Brown of Tama Co., Iowa, visited me and while examining my bees, 26 stands at that time; he noticed that they were not only nearly out of honey but were entirely destitute of pollen. This had been the poorest season I ever knew; the bees had not made one fourth enough to winter on. I was about to feed them for winter when Mr. Brown asked me if I thought they could winter without pollen. This question scared me so that I determined to double them to 13 stands, which I did and fed on A sugar syrup.

In the mean time I had written to an old bee-man of may years experience, D. Burbank, on the subject. His answer was that when I feed on sugar syrup I need have no fears for pollen. Now for the result. The thirteen stands *every one* of them came through the winter all right, and increased next season to fifty-two, and give me 560 lbs, of surplus and the season was only a tolerable one.

I think bees can winter very easily without pollen, especially if fed on sugar syrup, but I would by all means advise feeding on rye-meal as early in the spring as the weather will permit them to take it in.

Lowell, Ky. R. M. ARGO.

For the American Bee Journal.

Adulterated Honey.

I read in the report of the proceedings of the North American Society, that some honey dealers refuse to buy extracted honey because they can manufacture a "so called" better article, at less cost, in mixing a gallon of honey to seven gallons of sugar syrup.

I see also in the report of a committee appointed to study that matter, that the committee condemns such practice and menaces the adulterators of publishing their names. I doubt the efficiency of such a menance. The majority of the adulterators will assert that they do not sell manufactured honey. How can you prove their culpability, if you do not know the means of detecting the adulteration?

Such a means exists; it has been known and practised in France for centuries. It is infalllible and in the reach of every one. Honey granulates, or as you term it in this country, it candies. Sugar syrup does not granulate, does not candy, if too thick it crystalizes.

But I see in the same report that bee-keepers want a means of preventing honey from candying. It is the same as to want to encourage the fraud; for if bee-keepers were deprived of this means of detecting false honey, the adulterators would become more daring and more numerous. What is needed therefore is not to find a means of preventing honey from candying, but to educate all the American consumers, which are accustomed to buy spurious honey and

which refuse the true article, because they don't know it.

It is consequently of the greatest importance that all the Bee Journals inform their readers that the best test for honey is the candying; that honey candies because it is formed of grape sugar, which granulates and does not crystalize; that on the other hand, sugar syrup is made from cane sugar, which does not candy but crystalizes. That if they find on the market, from December to June, a so called honey in liquid condition, they can, with absolute certainty, declare it a sophisticated honey, or at least a honey which, by boiling, or by pure mixture, has lost its character as true and pure article.

If you were in Paris offering for sale your best honey, you could not find a price, not even five cents per lb, if your honey was liquid; while a good, white granulated honey would sell readily at 15 cents. It is because the French people are accustomed to eat candied honey, and know that it is granulated.

Let every one of us write, in all the papers at large, these simple facts; and without waiting for the millenium, we will see all the amateurs of good honey ask for candied honey, for it is really better than liquid, better even than comb honey.

Hamilton, Ill. CH. DADANT.

For the American Bee Journal.

Bee Enemies.

My article in the September No., headed "Spring dwindling," does not seem to have drawn the attention I desired, but I deem the subject to be of such overwhelming importance that I dare to dwell on it once more, hoping that this time one of the many experienced bee-keepers, writers or observers may take up the subject and help me to awaken the interest of all bee-keepers to it.

The enemy in question is a fly, called the bee killer. There are three kinds, all looking very similar to each other viz: Asilus Missouriensis, about 1¼ in. long. Asilus Cericeus, about 1 in. long, and Erax Bastardi, about ¾ in. long. All these three species abound here (central Ill.) from June to the end of September, and there is no doubt in my mind that they are the main cause of the sluggishness of the hives, often shown from early June to the middle of August. My hives were quite lively in April and May, increased in honey and brood, so that I already dreamt of a large honey yield and a large increase in June and July. But alas, how were my hopes disappointed. In early June my hives became lazy, almost stopped flying, showed no increase in honey nor in numbers, and actual weighing proved that they lost honey. Of course I dropped at once all intentions to a further increase of stocks, and tried to study the cause. True, it was a dry season, but there were in June flowers enough for the bees to bring home some honey, but they hung before the fly-hole without attempting to fly. I thought of toads and watched them; of hornets, of all birds, said to be enemies, but none could have such a discouraging and decreasing effect on the bees, as I perceived on all of my stocks. I investigated the stocks inside, found them clean, combs well built, but little honey and brood, and weak in numbers. None tried to build any queen cells. I almost gave up the search, when one morning while being busy in the apiary, I heard behind me a peculiar loud and short bee "hum." Turning around I saw a large long fly, hanging on a grass stem, have in its claws a bee and after turning the helpless victim so that the under side of the bee's thorax touched its proboscis, the latter as quick as lightning sunk into the thorax of the bee, at the same time the fly with its victim dropped to a lower place, between the grass, and after a few minutes dropped the sucked out, and of course dead bee, to look for a new victim. While I was observing the operations it struck me there might be more of these flies, and began to search, when I to my terror found that thousands were around in the field, all watching for the honey bee. The mystery of my bees dwindling down was at once explained. The bees I saw idle before the fly-hole were young ones. The old ones flying out, but not half of them returning from their honey and pollen excursions, of course the hive decreased in honey. Honey and pollen decreasing, the breeding was nearly stopped and a general discouragement lamed the hive. In July and August I killed a large number of the above named species but not enough to help me much. From the middle of August they seemed to disappear somewhat, and immediately the bees became lively, brought in more honey, began to breed again and enabled me to sling out from 40 hives, from Sep. 1st to 15th, 840 lbs. of fine honey.

The coming year I intend to apply all the time I can spare to hunting for this worst of the bee enemies. They are easily caught by a butterfly net. Just before sunset they settle mostly on top of a conspicuous weed, where they are easily seen and caught. I am very much astonished that none of our many writers on bees ever mentioned this enemy. The Missouri State Entomologist, C. N. Riley in his second annual report, gives a full description of all three species, I refer the reader to his article in that report page 121—124. What I would propose is, that all and every bee-keeper in the U. S. should from June to September be busy killing this fly. It is plain that this pest to the bees must increase, as the number of bees increases, but that a concerted action may thin down its numbers.

They are easily recognized by their long, slender comical abdomen, their transparent two wings, their long legs, thick thorax and their deep, drone-like short, loud hum while they fly. Their color is brownish and yellowish. Length of body from ¾ to 1¼ inch long. Wherever bees gather honey you can find this fly. I caught many a hundred on my buckwheat in the morning. On wild land in the afternoon. If it had not been for this blood-thursty savage bee enemy, I verily believe that I would have gained 2000 lbs. more honey and at least 25 more new colonies than I actually did. I think it worth while for every bee-keeper to give this subject his full attention for 1875.

Sigel, Ill. CH. SONNE.

We earnestly invite investigation on this point, being convinced that we cannot be too much on our guard against any enemy of the bee. We cut from Colman's Rural

World reports from Prof. Riley, describing what seems to be the same insect. Let all bee-keepers study these descriptions. T.

BEE ENEMY.

EDITORS RURAL WORLD: Please find enclosed an insect of the canibal species, subsisting on the flesh of the common honey bee. I have no name for it, neither can I tell from whence it came nor how long its visit will last. It appears to be confined to localities. I have not as yet seen any feeding on my bees, yet one mile from me they are committing a fearful devastation. Their mode of catching the bee is, by alighting on the back of the bee and carrying it to some prominence, and if left alone soon destroy it vitality. They are very swift on the wing, but easily caught, and less wary when feeding on a bee. Any information concerning its habits and general character will be thankfully received. A. STURGILL.
Pickering, Mo.

Your letter was kept for some time in the *Rural World* office and was finally handed to me without the specimem. Yet I have little doubt from your description, that the insect which destroyed your bees, is a large two-winged fly, which I have called the Missouri Bee Killer (described in my second report as *Asilus Missouriensis*, but ascertained by subsequent comparison, by our dipterist, Baron Osten Sacken, to be the *Proctacanthus Milberti*, Macq.). These flies "capture the bee on the wing, pouncing upon it with lightening-like rapidity; then grasping it securely with his fore-legs, they alight upon some plant or even upon the ground, and rapidly suck out the inside of the bee, with the stout proboscis, leaving the empty shell when they get through. Mr. Thompson says that beneath some favorable perch that is near the apiary, hundreds of these bee shells may be found accumulated in a single day; while he has watched and found that a single fly on one of these perches destroyed no less than 141 bees in that period of time."—1st Report, p. 168.

There are several other species of these rapacious flies, which have the bad habit of killing bees, but the apiarian will care little about their specific differences. They should all be destroyed, "and though very strong and rapid flyers, they may be easily caught settled on any little prominence with a bee in their grasp; for they are so greedy of the bee's juices that they are at this time less wary, and even when disturbed will fly but a few yards away before settling again." A net, such as is used by entomologists, and as is described in my 5th Report, will be found useful in catching them, and there is no other way of preventing the mischief they do.

"The habits and preparatory stages of our *Asilus* flies are not very well known. They are all canibals in the fly state, sucking out the juices of their victims with the strong proboscis with which they are furnished, and by which they are capable of inflicting a sharp sting on the human hand. The larvæ are footless, and live in the ground, such as are known in state are strangely enough, vegetable feeders."—2d Report, p. 123.

A box 6½ inches high, and 15 inches square, in the clear, will contain 20 lbs. of honey in the comb.

For the American Bee Journal.

Answer to H. W. S.

MESSRS. EDITORS:—Permit me to answer a few points as briefly as possible, in an article written by H. W. S., of Cincinnati, in the JOURNAL for January.

He says in the second paragraph, "That a few facts are observed, but they are supposed to be connected together in a very illogical manner." One of which is the collection of moisture in the mats and on the insides of the hives and the errors of attributing it to aqueous vapor emanating from the bees themselves, while "his experience is that the moisture comes through leaky roofs."

While this is no doubt the case when the roofs are defective, still there is no fact better established in apiculture—however "illogical" it may seem to some—than this one; that bees confined to the hive during cold weather consume a vast amount of oxygen from the atmosphere to keep up combustion, in order to maintain the requisite degree of heat, exhaling carbonic-acid gas and water in the form of vapor. In all animal life it is seen, that combustion is carried on more vigorously in cold than in warm temperatures. The temperature of the body undergoes no change in passing from the torrid to the frigid zone, the increased combustion compensating in a great measure the more rapid loss of animal heat in low temperature. The same power to adapt itself to different degrees of temperature no doubt exists though to a less degree in the honey-bee. If we expose a bee suddenly in the heat of summer to a temperature not lower than one in which it would fly briskly in the winter, it would soon perish; showing that the combustion then going on is not sufficient to resist as low a degree of temperature, as in the winter.

Now, the products of combustion whether from fuel in the grate, or that constantly taking place in animal life, is invariably the same; carbonic-acid and water, and the quantity produced—other things being equal—is always in proportion to the fuel consumed, and if egress is not given it in some way, the vapor will be condensed on the first cold surface with which it comes in contact.

He says "he covers his blankets with tarred paper which excludes the external moisture, and therefore his blankets are dry."

I suppose the tarred paper is laid loosely on the blankets with the tarred side up, allowing the air to pass between them, and evaporate the moisture.

Any one having any doubts on this subject, can easily demonstrate the fact, by inverting a tin box over the blanket the size of the hive, and securing it that no moisture can escape, and none enter from without; then examine it after the mercury has remained for a few days and nights several degrees below freezing, and he will be surprised at the quantity of moisture that has been condensed on the cold métal in the form of frost, which if it were allowed to accumulate during several weeks or months, he would have an approximate idea of the whole quantity thus thrown off and what the condition of the hive and bees would be if this had been retained.

The idea that moisture in any considerable quantity is generated by the bodies and respiratory organs of bees, seems to be ridiculed throughout the article, and he takes human physiology to prove his position, and says: "In human life there is so little extra moisture, that it requires accurate experiments to find it," while the fact is that it amounts to several pounds daily.

Put on gum boots without lining over woolen stockings; they will soon be found wet with prespiration.

The soldier finds the underside of his gum blanket that he has slept under during a cold night, lined with frost, from comparatively small portion of the aqueous vapor exhaled from the body during the night.

The question is asked, "In what case of animal life does the moisture emanating from their bodies, condense to such an extent as to dampen and mould their beds?" I would answer, whenever that moisture is confined to the bed. Try a rubber bed, with rubber coverings, at a temperature low enough to condense moisture; confine closely all the vapor generated by the body and exhaled from the lungs, and I imagine the bed in the morning will be found uncomfortably moist.

For this very reason we use the kind of clothing and bedding we do in cold weather; and try to apply the same principles in the management of our bees. One, while it is a non-conductor of the animal heat generated by the body, is sufficiently porous to convey the aqueous vapor to the external atmosphere. We have ventitators in our houses; our doors and windows, with our fire-places and their flues, constantly changing the atmosphere around us and carrying off the surplus moisture.

Each bee in the cluster is of itself a little chemical laboratory and furnace, with chimney attached, receiving its supplies of fuel from the atmosphere and the carbonaceous materials in its food, which, when combined in its system are consumed, generating heat, the carbonic-acid gas and water escaping as effete material or smoke.

Now, one great object in every bee-hive, should be to have some means by which this effete matter can be carried off. It is of no more use to them in the support of animal life, than the smoke that escapes from the chimney is fit for combustion; but on the contrary, the carbonic-acid is as surely fatal to animal life, when inhaled in large quantities, as water is to quench fire.

As we cannot very well use a single large chimney for this purpose we resort to a great number of small ones. We employ *capillary force*; that force which raises the oil in the wick, the sap in the plant and tree, and in this we have thousands of minute chimneys, as the medium, transmitting these gases to the external air, where it is diffused instead of being condensed within the hive, to be vaporised again and again as the temperature changes.

The writer further says; that, "In the face of the fact that bees will stop air-tight every crevice except their entrance," bee-keepers will persist in putting blankets and mats on their hives for the purpose of ventilation." That they will plaster up a thin piece of wire gauze, there is no doubt; but we do deny, that they in a state of nature, make or attempt to make their homes air-tight; a fact which further along in the article is practically admitted; where he says, speaking of hollow trees: "The walls are generally in a decaying condition, being spongy and porous, and full of air cells." Just so; not "air-tight" then, but just what is needed to absorb the moisture, and just what we try to imitate with our straw mats, quilts, boxes of charcoal and chaff, straw and shavings; in short, something that is "spongy and full of air-cells."

Thus far we can imitate nature and no farther. Here the parallel with the natural home ends.

With all our patent hives, with their air-chambers, and absorbents we cannot endow them with the vital force possessed by the living tree with its millions of capillary tubes, terminating on its hollow surface, sucking up, as it were, every particle of surplus moisture, and carrying it to its remotest branches.

It is a fact, I believe, which has been generally admitted by bee-keepers, that bees, other things equal, as regards care and protection from severe changes of temperature, winter better in the old

fashioned log gums than any other kind of hive. I am unable to understand why this should be so ; unless it is that the gum is a continuous cylinder, contracting and expanding with every change of temperature, charred as they usually are and exposing numerous fissures which expose the mouths of innumerable capillary vessels, so as to facilitate the absorption and escape of moisture.

I have frequently noticed that blankets or carpet, when tacked on hives just sufficiently large to cover them, they become damp; but when I have accidently left them large enough to extend one-third or half-way down the hive on the outside they remain dry.

This can be accounted for on the same principle, that if we place a roll of candle wick in a vessel of water, extending only a short distance above the surface, the liquid will ascend in the wick and be slowly evaporated ; but if the wick is drawn out some distance and allowed to hang down, this capillary force is greatly increased and will soon empty the vessel.

These are natural forces governed by natural laws which every day we see demonstrated, and which we need only to comprehend and apply to attain the objects in view; and before we are wedded to any particular theory it should be tried by the test and if that theory is not in conformity with those general laws it is sure to lead to false conclusions.

Washington, Ind. J. A. SCUDDER.

For The Amerian Bee Journal.

Bee Notes From Kentucky.

MR. EDITOR :—After a long absence from the columns of the AMERICAN BEE JOURNAL I again appear ; this time I presume to meet a great many new subscribers and novices, to whom I may be a stranger. We notice a great many new writers the present year, and but very few of the old veterans of a few years past. What has become of them. Where is Dr. Bohrer, Burbank, Gallup, and others whose articles used to adorn the columns of the JOURNAL? Have they become discouraged and lost interest in bees, in consequence of the great bee malady the few past winters? If so, this is wrong, for hog and fancy poultry breeders do not get discouraged to such an extent as to quit the business when their whole stock is cut off with *cholera;* nor would this be acting wise to do so.

I have never as yet encountered any sort of disease among my bees. But for the last three years, I have encountered bad seasons equal to a bee disease. The season of '72 was but a poor one. That of '73, as bad as any I ever knew, and until May 1st. this season, we hardly had a day fit for bees to fly out, for the great rains. The rains ceased in the 1st week of May, when the great draught commenced that held out about 9 weeks with no rain of any consequence intervening. The honey season was but about thirty days, and when it commenced the bees were very weak and had to have time to recruit, during the honey yield. So weak were my bees when the long rain ceased, that I could have doubled up the thirty-five odd stands into ten strong ones. I had fed liberally during the rains—but it seems that the bees became tired, waiting so long for the rains to cease—and so a great many ventured out in the rain every day nearly and got lost.

I had such a number of queens engaged that I did not double up a single stand; keeping them all for nuclei. Now for the result. The thirty days from the day the rain ceased was the best honey season I ever knew. The 35 weak stands soon got strong and increased to 67 and gave me twelve hundred lbs. surplus, besides raising over a hundred queens. Besides this there was the best fall bloom I ever knew, in which I got about six or seven hundred lbs. more of surplus, besides every stand even the weakest is now very full of honey. I have two New Idea hives with about four or five times enough to winter on. So I think I can safely set the amount of surplus at 2000 lbs. as I was unable to attend to my bees part of the time owing to indisposition.

This is enough to encourage any one who is becoming discouraged by bad seasons in succession. Another encouragement was I found a ready market of 30 cents for comb and 25 for machine, right at home this season. This was doubtless owing to the great scarcity of bees, caused by the bee mortality the past few winters.

The above shows the importance of always getting bees strong before the honey harvest sets in. I had my bees stronger the 1st of April than they were the 1st of May. I found it easy to get them strong but how to keep them so during a continual rain, in the first part of the honey season, was the main trouble, especially when every day was a wet one. I could not keep them from flying out in the rain.

If any of your correspondents know how to keep bees from flying out in the rain in the midst of the honey harvest, especially when the rain is a continued one of a week or two—mine was about seven weeks—will they give it through

the JOURNAL. Had my bees been strong when the rains ceased I ought to have got two or three times as much as I did.

Lowell, Ky. R. M. ARGO.

For the American Bee Journal.

Honey at the New York State Fair.

In notes on the Fair of 1874, held by New York State Agricultural Society at Rochester, we read that "the exhibition of honey was fine and never better." If the display of honey there made, was such as to draw the encomiums of the officers of the State Society, perhaps a detailed description, as seen by your correspondent, may not be uninteresting to the readers of the AMERICAN BEE JOURNAL.

The first premium for largest amount of box-honey produced by one colony, was awarded to Mr. M. H. Tennant, of Stranwix, whose figures stood at 180¼ lbs.

The first premium for largest quantity of extracted honey, produced by 1 colony, was taken by Mr. J. H. Hadsell, of Breedsport, whose exact figures I do not recollect, but think they were something over 200. The main strife among competitors seemed to be mostly on box honey as to what style of box is best, all things taken into consideration, for marketing our surplus honey at the present time, is a question of dollars and cents with comb honey raisers. The variety in styles of packages attracted much attention and as there were competitors from different parts of the State, the display was not only attractive but practically instructive.

Mr. Tennant's sample was in old style of boxes and though of creditable appearance, not quite up to present requirements, the packages being too large to bring highest market prices—so with Mr. Griswold's sample—nice honey, but not in shape to call purchaser's attention. Mr. Bettsinger's of Marcellus Falls, was in narrow sectional boxes. I believe the same as advertised and sold by himself and Mr. Geo. T. Wheeler, of Mexico, N. Y., and largely in use in that section and known in New York as Syracuse style. As Mr. Bettsinger's were nicely cased, they showed to the best advantage and could but be very convenient for retailing purposes. Mr. Hadsall's sample hung in frames similar in size to Mr. Bettsinger's boxes, but not as tastily put up, yet well arranged to show all the merits in that way of getting surplus.

Mr. C. R. Isham's boxes were wood tops and bottoms of any desired size and of any kind of timber—some polished off in fancy style—some merely planed smooth with glass sides and ends held to place by angular bright tin corner pieces pronged to pass through the wood and clinch, making as strong and nice box as could be desired by the most fastidious; and profitable to the seller, as they can be manufactured about as cheap as almost any style of glass box.

Part of Mr. Isham's lot was in small single comb flaked boxes 6½x2½ and weighing about 2½ lbs. gross, the ends showing the pure liquid honey in cells built against the glass, while the sides gave a view of the white-capped comb in all its natural beauty and purity.

Some empty boxes in which had been fastened pieces of white comb were quite a novelty to those not familiar with the workings of the honey-bee and drew forth many expressions of praise to the instinct of the industrious little insect.

The 1st premium was awarded to the honey in the glass boxes above mentioned and exhibited by Mr. C. R. Isham, of Peoria, Wyoming Co.

The committee found more difficulty in deciding to whom to give the 2nd premium, but finally agreed to give it to Mr. Bettsinger's sample; but as he declined the 2nd premium, they gave it to Mr. Peter Miller, of Fredonia, a well merited tribute to Chautauqua's veteran bee-keeper.

I will conclude by remarking that a spirit of good-feeling prevailed among the honey exhibitors, and though the premiums were liberal, they were not the only inducement that brought them there—but a desire to further the interests of bee-keeping, by presenting samples of honey put up in style to give satisfaction to both producer and consumer, eliciting their interest, as was evinced by numerous inquiries and demonstrating by practical example, what these industrious little workers will do, if care at the proper time is taken to give them plenty of room in which to store away their surplus gains.

"OBSERVER."

For the American Bee Journal.

Jefferson County Bee-Keepers' Association.

The Jefferson County Bee-Keepers' Association had since my last report organized, adopted a constitution and by-laws, and held several meetings. Every meeting was well attended and a great deal of interest taken by all who were present to promote the prosperity of the Association.

The following are the officers elected for the ensuing year: Christopher Grimm, President; William Wolf, Secre-

tary; and Adam Fuerbringer, Treasurer. The election of a Vice-President was dispensed with. Fifteen members signed the constitution at the first meeting and a great many more have signed since.

Although the past season here could not be called a first rate one, the reports from the different members of this Association on increase of swarms and surplus honey are very good, and sum up as follows: Colonies in the spring, 1,285; increase 1,150; total 2,435, put into winter quarters.

Comb honey	28,467 lbs.
Extracted	15,032 "
Total	43,499 lbs.

All of the above comb honey was sold for a price ranging from 18 to 30 cents per ℔, and the extracted from 12 to 18 cents per ℔, except 250 lbs. of comb, and 400 lbs. of extracted honey on my hands yet.

One of the main questions discussed in these meetings was as follows: How can bees be wintered without loss? William Wolf, of the village of Jefferson, opened the discussion on this topic. I have wintered bees on their summer stands, in clamps, and lately in a house built for that purpose, I would not under any circumstances recommend in this northern country, to winter bees on their summer stands; bees wintered out-doors would need just double the amount of honey as when wintered in clamps, cellars or repositories. And further I will state that I always lost one colony out of three when I wintered them out-doors on their summer stands. In regard to wintering bees in clamps I would state that they have done well, except one winter; when in the spring the snow melted and water got into my clamp and drowned many bees. I would therefore advise bee-keepers who winter bees in clamps to select for that purpose a dry, high place where no water under any circumstances could get into it.

The last four winters I wintered my bees in a house built for that purpose, the first winter they wintered well; 2nd, heavy loss; 3rd, heavy loss; 4th, some loss, but not so heavy as 2nd and 3rd winter. I account the cause for losing so many the 2nd winter to the smallness of my house, having put in the house 184 colonies of bees, they produced too much heat and before the weather was favorable in the spring so that bees could be taken out from the house, they left their hives, fell down on the floor and died, dead bees covering the floor from three to four inches deep. The third winter which was two years ago, when the thermometer stood from 28 to 34 degrees below zero for one whole week, my house was too cold. The sawdust had settled on the sides and the naked boards were no protection for my bees and they froze to death.

The last winter I lay the cause to the weakness in numbers of bees in some of my colonies, at the time I put them in my repository. If our bees are in a good condition at the time we put them up for wintering, not kept too warm neither too cold, they will winter well, but if kept too warm it will induce them to commence breeding, they will get too dry and suffer from thirst, the young bees hatching while in the cellar, clamp or repository have no chance to fly and clean themselves, and on that account will get effected with disease. If kept too cold, the vaporation of the bees will freeze and the comb will get wet and mouldy.

C. Grimm stated, I have experienced very little difficulty in wintering bees. Since 1868, I kept bees in this country, have always wintered them in the cellar and had very good success.

In the summer of 1871, I built a new cellar at my farm for the purpose of wintering my bees there. The cellar is built on the side of a small hill, so that from one side where the door leads into it, it is level with the surface and I can walk in without climbing up cellar-steps. It is only protected on two sides, the other two sides had no protection, except one foot brick wall which was insufficient to keep the frost out, in this cellar I put my bees the next winter.

One cold morning when the temperature was 28 deg. below zero outside, I went into my cellar and found it only 10 above zero. I opened nearly all the hives which were on top, and was surprised in finding the bees, in every one I opened, inclosed in a lump of ice; put a stove in my cellar at once and used artificial heat to thaw them up. From this time until the weather got warm I kept a fire every day to keep the frost out and to dry the hives.

On the 29th of March, 1872, I took my bees from the cellar and put them on their summer stands, and found among 77 colonies only two dead, although I disturbed my bees many times during winter.

In the winter of 1873, I did not use any artifical heat, I protected my cellar with sawdust to keep the frost out, and have succeeded in doing so. On the 26th of March, took them from the cellar and found after examination among 132 colonies, four dead, all the rest had wintered

well, but lost six colonies more in the spring, after I put them on their summer stands.

The last winter the weather was very mild and we had a great deal of rain in the months of February and March, so that water got into my cellar. I had it bailed out twice and sometimes three times a day, but one morning when I went to my cellar I found the hives standing next to the bottom, 3 and 4 inches in water, saw at once that it was an impossibility to keep the water out by bailing. I therefore employed some hands and ordered them to dig through on the lowest side under the wall of the cellar to let out the water, which came from the bottom of the cellar in a good stream ; they succeeded after a day's hard work.

Although I had more or less water in my cellar for six weeks before I took my bees out, I found (March 18th) when I did take them out not a single colony dead among 134 I put in the cellar, and only two affected with disease. Every comb bright and clean, except those that had stood in the water. This convinces me, that bees in a dry cellar will towards spring suffer more from thirst, than bees will suffer on account of dampness in a damp cellar.

I agree with Mr. Wolf, that bees put up for wintering should be in a good condition, they should not be kept too warm, neither too cold ; if kept too warm it would induce them to commence breeding, they would get dry and suffer from thirst, the young bees hatching in the cellar, repository or clamp, would not have a chance to fly out and clean themselves, and on that account would be effected with disease. If bees are kept too cold the evaporation of the bees would freeze the combs and get wet and mouldy, and if not sufficient ventilation is secured from the outside and plenty of fresh air admitted, it will create a bad smell and bees will get sick and die.

After further discussion on the same subject the opinion was general, that bees can be wintered in a cellar, repository or clamp without any or but very trifling loss ; if, when put up for wintering they are in a good condition ; (that is to have plenty of honey, to be strong in numbers, and have a young queen,) they are not to be kept too warm neither too cold ; (temperature not below 35 nor above 45 deg. Fahrenheit,) they should not be kept in a too dry nor a too damp place ; if kept too dry they will suffer from thirst, if kept in a damp place their combs will mould, create a bad smell, and bees will get effected with disease if plenty of fresh air is not admitted, or artificial heat used.

The meeting then adjourned until January 30th, 1875.

CHRISTOPHER GRIMM, President.
WILLIAM WOLF, Secretary.

For the American Bee Journal.

Why is it?

MR EDITOR :—Why is it that my bees always winter well on their summer stands, notwithstanding the mercury goes as low as 32 deg. below zero, as in the winter of 1872-3, and yet no sign of dysentery, when other bee-keepers who wintered otherwise, lost heavily while I lost none?

Why is it that bee-keepers object to fall honey for wintering, when we in this neighborhood, winter on honey that is gathered in September, and never have the dysentery among our bees?

Why is it that some box hives that I bought, wintered (without any upward ventilation at all, and was air tight) as well as my other hives that had on honey quilts and caps filled with chaff?

Why is it that I got 20 cents ℔ lb. for my extracted honey in half bbls., from the oldest and most reliable wholesale grocery and commission house in St. Louis, and other bee-keepers are complaining of dishonest honey merchants?

Oskaloosa, Ill. D. M. LASWELL.

For the American Bee Journal.

Letter from Kansas.

EDITOR JOURNAL :—Three poor years for the bee-keeper in succession and two poor years for the farmer makes me feel as though there might be a better place for both professions, in fact after reading what bee-keepers are doing in other places we do not feel like owning that we keep bees at all. We did not keep them very well last summer; during about ten days in the latter part of June they seemed to be determined to fly away without much ceremony. If they would alight they would in many cases not give me time to get from the field to the house before they would be gone. That is one great objection to the Italians, they are bound to swarm just when you want them to stay in the hive and work. Mr. Hazen tells us to use a non-swarming hive, but we have no faith in it, for we have known them to swarm when the hive was not half full of comb, and last season we had one to swarm the second day after hiving, but they were put in a hive of empty comb and got away entirely unknown to me. I had weighed the

hive in the morning to see how much honey they would gather through the day, on weighing it again in the evening it was just 10 lbs. lighter. I then examined the hive and found there was a medium swarm and a queen.

I have said that the last three seasons were poor, and so they were as a general thing, but in some localities they done better than others; mine has paid but little over expenses in the years mentioned, last season I got 900 lbs. extracted honey, and this winter so far have lost about one-third of my bees.

N. CAMERON.

Iowa Bee-Keepers' Association.

On Wednesday Jan. 20th the annual meeting of the Central Iowa Bee-Keepers' Association was held in this city.

After transacting routine business the following resolutions were adopted:

Resolved, That this convention adjourn to Wednesday the 17th day of February next at the City Hall, in Cedar Rapids, and the committees are instructed to have their respective reports prepared—especially that relating to the success of Bee-Keepers in 1874.

Resolved, That the growing interest and value of the apiary, in the State, especially its central portions, invite not only a full attendence of our members, but also of others interested in this rapidly increasing source of wealth in Iowa—now standing only second to any State in the Union in this branch of material prosperity.

Resolved, That THE AMERICAN BEE JOURNAL of this city, and other city papers, daily and weekly, are requested to publish these resolutions, and that their exchanges interested in this subject be requested to copy.

J. M. MAY, Secretary. D. W. THAYER, President.

For the American Bee Journal.

Solid Frame.

On page 214, Vol. X, No. 9, of the AMERICAN BEE JOURNAL, in your reply to Mrs. G. W. Church, you say some bee-keepers always allow a margin in this way to secure more care in taking out the first frame. When it is so left, care is necessary when honey is plenty to prevent the bees from filling the vacant space with comb."

Now, this care means a great deal of trouble and yet with hives that have no movable sides, this margin is positively necessary to save the life of the bees and perhaps the queen. To avoid all this trouble and yet to secure the advantages this margin offers I use what I call a solid frame. It is nothing more than a thin and light partition of board made the size of the frame so as to move easily; this is put in the extra space or margin, and pushed up to the comb so as to allow a passage for the bees between. There is then no further trouble; when you want to open the hive you have only to push the solid frame back against the side of the hive and lift it out clear of the combs. You then have room to work freely, besides having no bees killed.

Austin, Texas. B. H. IVES.

For the American Bee Journal.

The Italian Test.

In a late number of the JOURNAL I asked if there was any fixed and certain test of Italian purity. I did this in part because some of our most prominent bee-keepers were maintaining that "a few black bees" among the Italians were "no mark of impurity." It seemed to me, that if black bees were to be found among the Italians, "even in Italy," as had been asserted by Mr. Dadant in a previous number of the JOURNAL, it would be of little use for us to hope to improve the grade of our hives by importations from that country.

But Mr. Dadant comes to our relief (?) in the November JOURNAL, by telling us that it was not *black* bees, but only "seeming black bees" that he saw in Italy. They were black, yet only in appearance, and that from the effects of their food and fœces. This explanation may be satisfactory to Mr. D. but to my mind it seems "rather thin." If they were "seeming black" bees, as termed by Mr. D. how does he know that their color was caused by the matter within them? or how does he know they were not genuine blacks? May I not, with equal reason, say of any one and two banded hybrids, that they are only *seeming hybrids*; that one or two of their rings has been temporarily obscured by their food or fœces, and that their rings will re-appear in their full luster as soon as the dark matter has passed from their bodies?

I don't believe that any three-banded Italian bee ever took anything into its stomach so dark as to render it in appearance like a black bee. On one occasion a year or two since I fed a few of my Italian stocks a mixture of very dark sorghum molasses. I could easily discern the dark matter through the wings, but the rings themselves were as readily distinguished as before the molasses had been taken into their sacs. I have also often seen Italians with their bodies greatly distended with very dark fœcal matter, and yet they had no appearance in common with the black bee. The peculiar workings of the Italian and black bee are so different and distinct, that the merest tyro in bee-keeping can never be at a loss to distinguish one from the other.

I have no reason to doubt the statement of Mr. D. that he saw "a few black bees" among "the thousands of well marked" in Italy; yet I do question very seriously his judgment, that such bees were only "seeming black," and not black *in blood*. His own statement convinces me, that many of the bees he saw, were as much hybrids, as any we have in America. And I believe

that this fact accounts for the further fact, so many of the queens imported from that country are impure.

It is useless for Mr. Dadant to assert, or to guarantee even, that all the queens he or any body else imports, breed invariably "workers with their yellow rings." I know it is the general complaint with queen-raisers, that imported queens are very uncertain breeders.

I will close this already too tedious article by reiterating my judgment, that any queen that fails to breed workers *invariably with three yellow and distinct bands* can not be relied on as a *pure queen*. Whenever even *one* "seeming black," or "seeming" one or two-banded worker is found among her brood, she should be discarded as a breeder.

Charlestown, Ind. M. C. HESTER.

For the American Bee Journal.

"The 'Moon' Shone Bright."

Kind northern reader are you shivering in the cold? Are the dreary November days beginning to scatter down the round hard pelletts of snow? Do even these messengers of the Ice King seem afraid of the cold? Yes, you look pinched up and your face is fairly blue. Why you are half frozen! Just get in by the fire, tumble in the fuel and let the blaze roar at old Winter, while you doze off and dream you are with me this warm sunshiney day, away down in Georgia.

Leaving the Chattanooga & Atlanta R. R. at Kingston we take the pleasant little family railway leading over to Rome—a distance of 20 miles. The beautiful Etowah—"clear water,"—down whose banks we wind, sparkles under the sunlight, the bright foliage of the deciduous-leaved trees interspered with somber evergreens, the warm breeze which fans us through the open window, and the drowsy quietness, all combine to render almost perfect the illusion that we are entering the long-sought Elysium.

But be sure, my friend, that your fire is kept up for if you should get chilly and rouse up so as to catch a good glimpse of those fields of cotton clad in their snowy whiteness, the spell would be broken and the stern old Ice King would again reign over you. Members of the "colored persuasion," of nearly all ages and both sexes are leisurely pulling the cotton from the opening balls, and the train pauses every now and then for a breath, and to afford us a better view of the dexterity of the pickers.

We have our minds made up that "while in Rome" we will "do as the Romans do" but on arriving at that pleasant little city at 2 p. m. we are somewhat surprised to see the Moon, bearing a face radient with smiles, shining brightly down upon us, while the quiet inhabitants seem to regard the occurence as a common one.

We find the sanctum of the *Bee World* vacant, and wending our way to the apiary find its manager, our friend Moon, with sleeves above his elbows, in the midst of transferring. His cordial welcome places us at ease immediately. Then comes a ramble and a bee-talk among the 140 neatly painted hives which decorate the south-eastern slope from the house. We find a beautiful lot of Italians obtained from various sources and we are gratified at having an opportunity to compare the stock of so many of our prominent queen-raisers. Mr. Moon prefers frames 10 in. deep by 15 long—certainly a very good size for a standard frame. What surprises us most is the statement which our friend makes in answer to an inquiry concerning some colonies that appear weak. "Certainly they will winter here. It is no trouble in the world to winter bees in this climate." Then too it takes only about 12 or 14 lbs. of honey.

Why couldn't you sorry chaps, that put the quilts over your bees and tucked them up more than a month ago, have sent them down here and had 20 lbs. of honey gathered by each stock after Sept. 15th, let them frolic the whole winter, and then (if you didn't change your mind before spring) you could ship them back home after the March and April revels among the Southern flowers, to regale themselves among the linn forests and orchards of the North?—A winter resort in the South and a summer home in the North. How delightful—eternal spring and summer.

After the friendly bee-talk and the pleasant entertainment by our charming hostess—our friend's daughter-in-law,—we find ourselves the next day reluctantly leaving the beautiful little city which nestled among seven hills, like the ancient "Mistress of the world," gives promise that it will yet make its influence felt. We think it is the most beautiful little city we have visited in the "Sunny South." May the culture and evident progress of its inhabitants "rule the world!" FRANK BENTON.

Nov. 19th, 1874.

I wintered on summer stands, losing two stocks out of 25. Sold one stock in the spring and one stock became queenless early in the spring, and again in July, and gave me no increase or surplus, so I count 21 working stocks. With those I have increased to 44, and took 2418 lbs. of nice comb honey. Average price of honey 27¾ cents. I have kept bees but four years, and my bees are mostly black.

Tully, N. Y. J. E. LLOYD.

For the American Bee Journal.

On Wintering Bees.

MR. EDITOR :—As there is a great deal said in your Northern journals about wintering bees in cellars, caves, etc., which does not interest us in the sunny South, where we can winter them far better on their summer stands, perhaps it may not be amiss to give my way of wintering here. If you think it will be interesting to your readers you may insert it in your valuable journal.

You may think we need take no precaution here to winter our bees, where they are able to fly almost every sunny day during winter, but observation shows me that the mortality of bees here is as great in winter as in the far North, for we do not take pains here to prepare them that our Northern friends do. But if every one here would take a little trouble to cover the tops of the frames with a sheet of straw wrapping-paper and put a little cotton-seed on top to the amount of 1 or 2 inches thick, we should hear no more of bees dying in winter. The above is my practice, and of 200 stands put up in this way last winter, I lost but two, which I think died for want of honey. As I kept on swarming my bees last year until the 7th October. It is not strange that I should loose one per cent of them in wintering. In preparing for winter I even up all my colonies, by taking from the strong and giving to the weak, which I consider no robbery.

D. STAPLES.

Columbia, Mauray Co., Tenn.

For The American Bee Journal.

Remarks on Eccentric.

MR. EDITOR :—Who is Eccentric? How do you distinguish a man who is afraid to write over his full address from a coward, or if this name is too hard, I take it back and say "*timid.*" I dislike to read articles under ficticious names, and were I editor of a Bee or Poultry Journal no such articles could enter into its pages. But men differ ; it takes all sorts of people to make a world. I am not condemning at *wholesale*. But let us examine and see what good such articles do. In reading the JOURNAL my custom is to hop clear over such articles and first read our responsible names, and such as Eccentric's last. Yet, Eccentic's article was good, notwithstanding. Let us look for the bad.

He says : "The season just closed has been rather a dull one in our locality."

Now what good does this do the readers of the JOURNAL unless he told us where or in what latitude his locality was. Is it not mere idle scribble ; do we care to know how the honey season was, unless we know the whereats and whereofs, at Black Hill or Florida? But enough of this.

He asks where are the old brilliant writers of the JOURNAL. They are all living, except Dr. Hamlin, of Tenn., whom we miss very much indeed. The others did not disappear from the JOURNAL without cause, known to themselves only. I as well as Eccentric wish they would return, for I want to read their spicy articles again.

Next he pitches into the City Honey dealers ; there now, friend, Eccentric, you are right, "*give it to em*;" they have no business to damage or destroy our business. We who have spent seven years of hard study in winter, and hot stinging practice in summer to learn Bee-ology, not for our own but for the benefit of coming generations ; are we now after a hard toil among bees, in the heat of the day, to get nothing but a mere pittance for our honey or be cheated out of it altogether, by these City Honey dealers. No, this is too hard for us ; we can't stand it. Something must be done and that quickly. We must either form a Grange, or unite with the Granges and have our own Honey houses. But I would say to Ecccentric, if he does not already know it, that it is not all the City Honey dealers who will adulterate honey. Some of them are too honest and conscientious to do such a thing, as for instance C. F. Muth, of Cincinnati. I have not been in Muth's Honey store, but a friend of mine whose word I have entire confidence in, has assured me that he has been all through Muth's honey store and that he buys and sells nothing but the pure unadulterated article. This is the sort of a house to recommend itself. I sold my honey at home at fair prices. If I had any so send to a city, I would sell to no other than such a dealer as Muth.

He next pitches into New-Idea *hives*. True they were lauded to the skies, in such a way as even to induce Argo to try *em*. Last season was the first one that was fit to try a hive, and I gave four of them a fair trial, reported once or twice and said : "so far, they have given entire satisfaction." By the words "so far" I mean so far as I had trid them. But the winter trial was to come yet, and now Jan. 11th, so far, I am not satisfied with their wintering. Thus far we have never had a milder winter, and yet bees do not winter well in those long new-idea hives, at least mine do not. The bees all crowd to the front part, leaving about three-fourths of the hive, or nearly, unoccupied and unprotected. In all of Gallup's writing as to how his bees wintered in them he said "splendidly." So also said Adair ; if I am not mistaken. Well how is it that Gallup's bees in the far and cold north could winter so splendidly in those long hives and mine here in a much milder climate, not winter at all? Will Gallup or Adair answer?

But for Italians in a good honey season I know of no better hive to get large amounts of surplus. I got the most surplus from one of these, and I believe the others give more in proportion. I am well pleased with them in summer so far as tried, but not so in winter, yet I would advise novices to wait until I try them further. I promise a faithful report, not like the man who would pursuade himself that a thing was so, then report it as a fixed fact, when it was so only in his head.

Lowell, Ky. R. M. ARGO.

For the American Bee Journal.

A Friend or Enemy?

The Illinois State Horticultural Society held its annual meeting in this city, from Dec. 8th to 11th inclusive. Prof. C. V. Riley, State Entomologist of Missouri, was present, and delivered a lecture on the grape phylloxera or gall louse, a leaf parasite very troublesome on some varieties of grapes, particularly the Clinton. He stated that the phylloxera was less troublesome on sandy than on clay soils. The reverse of that is true in this vicinity at least. During the session of the Society I took occasion to hand the secretary the following:

MR. PRESIDENT:—I would like to know whether this Association considers the honey bee a friend or enemy? A certain professor of entomology considers it an enemy, and has recommended poisoning it. I consider it a horticultural assistant. Would like an expression of opinion by this Society. Respectfully,

MRS. L. HARRISON.

The president read the communication to the Society, and immediately, H. J. Dunlap, of Champaign, moved that the bee be considered a friend, which was promptly seconded. Prof. Riley jumped to his feet and exclaimed "that means me, that's to draw me out," Mr. President, I hope that question won't be passed without discussion; I would like a chance to explain my position, and as the time is all occupied this afternoon I hope the question will be deferred until evening. At the request of the president, Mr. Dunlap withdrew his motion for the time; but at the evening session it was again brought before the house by Mr. Gaston, of Lacon, who said "Mr. President, I would like an expression of opinion on the bee question. I consider the bee a friend to horticulturists; nature's great hybridizer, benificial in the cross fertilization of flowers, and in rendering fertile many sterile ones, a true utililarian, saving many cracked fruits that would otherwise be wasted, and the great nation of Russia finding they can get more clover seed with the fertilizing of the blossoms by bees, are importing bumble bees to fertilize the red clover."

The speaker was loudly applauded; and Prof. Riley being called for, arose and said, "Mr. President, I think highly of the honey bee, very highly indeed; I am a friend of the bee, I think it does a great deal of good; but in some seasons, in times of great drouth, when bee forage is scarce, I think it does damage, indeed I am certain of this. I watched the bee very closely for several years, before I could tell whether it did any damage or not; but one season, a very dry one, I saw two acres of Herbemont grapes nearly ruined by them. I think it is only on exceptional seasons that it does any damage. I would not recommend poisoning them, but think persons living on a small plot of ground ought not to keep them, in sufficient numbers, to annoy their neighbors at times when bee forage is scarce. On the whole, I consider the bee more of a friend than an enemy."

The members of the Society, that I conversed with, seemed to think the professor had "come down," considerably from his first statement on the bee question; admitting as he did "that the damage bees did (if indeed, they did any) was so slight that it took several years of close observation to discover it." I think the damage is becoming microscopic.

Peoria, Ill. MRS. L. HARRISON.

For the American Bee Journal.

Evaporating Honey.

Friend Ives, in Jan. number, speaks about evaporating honey by heat, in shallow pans in the oven, and in a kettle brought nearly up to boiling point. We tried the latter plan and made a grand success of it, for we suceeded in changing No. 1 honey into third-rate sorghum, without the least particle of a honey taste in it. We used it to make vinegar of. We now have in the cellar some large crocks of honey, very thick and clear, without a sign of souring or candying. Some of it was extracted after being capped over, and some the next day after it was gathered. We put it in large jars, cloth over the top, lay a board on it, and have no trouble in getting it evaporated without any more work. Therefore, friend Ives, if you want to keep the flavor of your honey *don't boil it.*

In my article in Jan. No., page 13, the name "Ross," should read "Roof."

Oneida, Ill. W. M. KELLOGG.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

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American Bee Journal.

W. F. CLARKE, Mrs. E. S. TUPPER, } EDITORS.

Wintering Bees.

Sir Robert Peel was accustomed to say, "Ireland is my difficulty." In like manner, the bee-keeper in this climate, may say with truth, "winter is my difficulty."

We have found a remedy for most other difficulties, but it is not too much to say, that this one remains unconquered. The serious losses of the past two or three seasons, induce feelings of uncertainty and apprehension, now that another winter is upon us.

Until recently, the common custom was to winter bees on their summer stands. During a moderate season, this was found to answer very well, but long-continued severe weather, and especially the pervalence of bitterly cold winds, caused great mortality and heavy losses, even with doubled walled and so called frost-proof hives.

In-door wintering too, has been tried and found wanting. Sometimes it works well, and on the whole, it has been more successful than the other method. But there has been many failures. These have been variously explained. Lack of warmth, insufficient ventilation, too great warmth, close confinement, damp, impurity or thinness of honey, disturbances of the bees, extreme quietude, artificial feeding, and the want of it, are among the most prominent theories that have been put forward to account for the failure of in door wintering.

Mischief usually develops in the form of dysentery, and the explanations above enumerated, relate to the cause of this trouble. In a state of confinement, the excrementitious matter is retained in the body of the bee. Its habit is to discharge its fœces when on the wing; If bees cannot fly, the fœces are undischarged, unless distension and discomfort compel them to befoul the hive. Under favorable conditions, in which but little honey is consumed, and the bees get into a state of semi-torpor, this retention of the fœces may continue a long period. Bees have been known to remain five months in winter quarters without a discharge, and yet came out vigorous and well. A warm day is chosen to release them from confinement, so that when set out doors they can at once enjoy a cleansing flight. It is not always possible however to secure the conditions necessary to enable stocks to endure a whole winter's imprisonment. If they are too warm they become active. Exercise creates appetite, appetite leads to a larger consumption of food, the digestive organs become over-crowded, and vent must be had. When once a hive becomes foul with excrementitious voidings, it is unwholesome, and things go on from bad to worse. If there is not proper escape for the moisture of the hive, or if the winter quarters are damp, mould is developed and the fatal dysentery sets in. As already stated, other causes lead to the same lamentable result.

To prevent the over accumulation of fœces, means have been adopted to give the bees a mid winter flight. The hive has been taken into a warm, well-lighted room, and opened, so that the inmates might sally forth, and relieve themselves. Or a box covered with wire-cloth has been fitted to the top of the hive, and the bees have been permitted to have a

little liberty in it, once or twice in the course of the winter. In some cases these expedients have been successful. But they are attended with considerable trouble, and with a large apiary, they are well nigh impracticable.

An intelligent bee-keeper has recently propounded the theory that the cause of all the trouble is want of water. He argues that bees are well known to be large consumers of water during the active season. They cannot manufacture honey or rear brood without it. All animals require more or less water, and cannot sustain life any length of time without it. In proportion to its size, the bee consumes more water then the horse or cow. Why then should the bee be expected to do without water all winter, any more than larger stock?

The theorist referred to contends that dysentery is caused by a feverish condition of the system, with a high state of local information in the stomach and intestines, and an evil condition of the humors or juices of the system, accompanied by inflammatory action. In this corrupt condition, these humors have actually become a disease, occupying the whole system of the honey-bee, and being so diseased, the physical system of the bee attempts to expel the offensive matter, by sending it to the intestines, where it is thrown out in the form of dysentery, and death follows, as there is no supply of water to replenish these juices, which are as essential to life as the breath. Water would have prevented all this, by keeping up a supply of these juices, and maintaining an equilibrium throughout the system; but dry food cannot replenish the juices without the aid of water.

There is certainly an air of reasonableness about this theory. We do not know whether its author has experimented upon it so as to be able to sustain it by facts. But it is worthy of attention by bee-keepers generally. When bees are wintered out of doors, they have occasional opportunities for flight, and at such times, can obtain a supply of water, as it is only when the sun has power enough to thaw ice and snow, that bees venture to fly in winter. It may also be the case, that in those well authenticated instances of in-door wintering which are on record, there was enough moisture generated in the hive to supply the bees with moisture and yet not render the hive damp and mouldy.

It seems to us that experiments are greatly needed just now in three directions, with regard to this matter of wintering.

1. To get, if possible, a hive for out-door wintering which shall be impervious to frost, and yet not so close as to keep the bees too warm. Keyes & Finn, of Clyde, Jasper County, Iowa, advertise in the AMERICAN BEE JOURNAL, that they have a hive which meets these conditions. It is double walled and has a chaff ventilator and feed box. They state that the past three winters have established the fact that their hive "*winters bees safely every time* on their summer stands." Quite an array of testimony from bee-keepers of good standing sustains their advertisement. We have not tried the hive in question. In fact, our first knowledge of it was derived from an advertisement in the December number of the AMERICAN BEE JOURNAL.

2. The plan of giving bees one or two cleansing flights in winter is deserving of further trial. Though difficult of adoption with a considerable number of colonies, and as we have said, well nigh impracticable with large apiaries, bee-keepers who have only a few stocks might practice it to advantage.

3. The water theory should also be thoroughly experimented upon.

Serious as the winter difficulty confessedly is, it ought not to be regarded as insurmountable. Surely it can be overcome by patient investigation and persevering experiment. He who shall tell us how to winter our bees with unfailing success, will certainly deserve the well wishes of his fellow-bee-keepers, and of mankind at large, for it is here that, just now, we most of all need enlightenment.

C.

Seasonable Hints.

The first of March is, in most places, too early a date to take bees permanently from a winter repository, or cellar, but if they have become uneasy and excited, it is well for them if on some warm day, the hives may be set out and opened, so that they can fly freely, and then be returned again to winter quarters. We do not advise this, however, when the bees are quiet. In that case they are just as well to be left undisturbed until there is a prospect of continued pleasant weather. In many localities bees flew so freely last fall until a late date, that they will bear a little longer confinement this spring, without injury.

No exact time or rule for weather can be given. Every bee-keeper must exercise judgment and common sense in this matter. We are always pleased, when we are able to set our bees out early in March. A few cold days, after they have once taken their cleansing flight, does not injure them, but much of the season's success depends on the care taken of them the first month after they are placed on their summer stands. Every opening in the hive should be closed except a small entrance—the bee quilt or mat placed snugly over the frames, plenty of food be provided near the cluster of bees, and the entrance shaded in some way from wind and the direct rays of the sun. One thing must be borne in mind now. We want a good, strong force of bees to gather our honey harvest, when ever it comes. To secure this, brood must be in progress six weeks at least before the time of the harvest, and plenty of it. If, then, we expect our honey harvest in May, we should in this month be using all efforts to foster brood rearing, and if this is done the colony will be full of bees at the time when they are profitable. This same advice applies to those further South, who expect their harvest a month or two earlier. Their feeding to stimulate brood rearing should begin six weeks at least, in advance of the main honey harvest. If bees are amply supplied with sealed honey, it may be unnecessary to feed them, and yet we find that a little diluted honey or sugar syrup fed to them regularly stimulates them to rear brood faster. After the brood is well started, if you can give them a comb or two of sealed honey, it is well.

Put out rye meal for the bees just as soon as they are set out of doors. We often receive inquiries how to feed rye meal, in spite of all the directions that have been given how to do it. In reply to them we say here, that we feed the meal in some sheltered place and in shallow pans or boxes, using several of these boxes and putting only a quart or two at a time and spread it thin, dry not wet. The bees can best work it into pellets if given in this way. It is no use to feed it to them inside the hives.

A piece of honey comb put with it in the first place, is useful in attracting the bees to it; after they find it, they will take it strictly until natural pollen comes in the fields and trees. We know that in our locality this feeding of meal is very important,

We cannot too strongly impress upon beginners the importance of attending well to their stocks when they are first put on their summer stands. Every hour of care bestowed on them now will be repaid largely in the months to come.

T.

Answer to Mr. Dadant.

We are glad to give Mr. Dadant's article a place in the Journal, being willing that in the matter of imported bees, as in all else, both sides should have a fair hearing.

In regard to the assertion that Mrs. Tupper is "changeable" in this matter, we are willing our readers should decide whether a woman who has followed bee-keeping persistently for seventeen years, can hardly be called "fickle;" and leave it to them also to say, if after having spent over three thousand dollars in the one branch of importing, she is not very wise now to let others bear the expense of further risk in the matter, or at least until

those who have been to Italy and Lombardy decide if black bees are found there now, even if they have been "imported there from outside Italy!" Not having been there, we are not competent to talk on that point. We have names and letters from those who have received queens from Mr. Dadant direct, that can be given to any inquirer who wish, either privately or in the JOURNAL, asserting that queens direct from Mr. Dadant, said by him to be imported, produced black bees and hybrid ones. To our minds these letters prove nothing until we know the circumstances under which they were introduced, &c. Our readers may think differently. Now that Mr. Dadant has "said his say," we cry "enough," unless Mr. Bingham or Mr. King wish to be heard. While our columns are open for both sides on any subject of interest to bee-keepers, we have no room for prolonged controversy.

T.

Progress in Bee Culture.

We clip the following item from the Vinton, Iowa, *Eagle*.

Mr. William Hunt, an extensive farmer in this county, living three miles west of Center Point, has lately given special attention to bee culture. Mr. Hunt secured the services of A. W. Colburn, a practical apiarist, who has recently transferred about a hundred hives of the ordinary black bees from the old gum logs to Langstroth's improved two-story hives, in each of which are placed from sixteen to twenty-four frames, About half a ton of honey has already been secured, without the distruction of a single hive. A friend called at Mr. H.'s the other day, and witnessed the process of extracting the honey. With one of Murphy's improved extractors, the honey was removed from several sets of frames in a few moment's time, without injury to the combs, which were replaced in the hives. The hives have been averaging twenty pounds of honey daily. The large forest of basswood trees near by, gives the bees a fine chance to make a good report. If bee owners want to make the business pay, they had better take a look at Mr. Colburn's operations at Mr. Hunt's.

Mr. Hunt is very enthusiastic over the management of his bees. He calculates to clear over a thousand dollars on his bees this year, although the recent transfer from one set of hives to another, did not enable them to make as good returns as they would have made had they been ready to go to work on the improved plan early this spring.

Co-Relation of Bees and Flowers.

The bees, Mr. Darwin says, have solved a difficult problem. They have made their cells of a proper shape to hold the greatest possible amount of honey with the least possible consumption of precious wax in their construction. No human workman is skillful enough to do what a crowd of bees can do, working in a dark hive—make cells of wax, of the true form.

The number of bumble bees in the country will depend upon the number of cats. How can that be? Because the number of bees is dependent upon the number of field mice, which eat the bees. Hence the more cats, the fewer mice, the more bees.

If the whole genus of bumble bees became extinct, or very rare, the heart's ease and red clover would become rare or would disappear. How is that? Because bees promote the growth of those flowers. The visits of bees are necessary to the fertilization of some kinds of clover, and almost indispensable to the fertilization of the heart's ease.

In a word—no bees, no seed; no seed, no increase of the flowers. The more visits from the bees, the more seed from the flower, the more flower from the seeds.

Nearly all our orchidaceous plants absolutely require the visits of insects to remove their pollen masses, and thus to fertilize them.

Twenty heads of unprotected Dutch clover yielded 2,900 seeds. The same number protected from becs, produced not one seed; one bundred heads of unprotected clover yielded 27,000, and the same number protected from bees, not a seed.

OBITUARY.—R. C. Otis, who is well known to the bee-keeping fraternity, died at Mount Pleasant, Iowa, August 31st, 1874, in the 61st year of his age.

M. M. BALDRIDGE.

St. Charles, Ills., Jan. 14, 1875.

John K. McAllister & Co., are our duly authorized agents for the AMERICAN BEE JOURNAL, at Room 27, Tribune Building, Chicago, with whom any business may be transacted with our approval, and be promptly recognized by the manager of this paper.

Foreign Department.

CONDUCTED BY CH. DADANT.

For the American Bee Journal.

The Birth, Mating and Laying of the Mother-Bee.

Generally, eight days and twelve hours are necessary from the sealing of the cell until the birth of the young queen.

According to F. Huber, eight days elapse from the moment when the cell is sealed over the larva until the time when the young queen leaves her cradle, but she ordinarily remains in the sealed cell for eight days and ten hours, provided the proper heat be furnished, for the royal larva spins its cocoon in a day and a half or thereabout, and is a pupa for seven days. I once noticed that a royal cell remained sealed for 8 days and 15 hours, and another for 8 days and 9 hours only. It is known that with an inferior heat the pupa might remain in the cell much longer than the usual time. I have introduced royal cells that had only been sealed for three days, in empty hives with a temperature of 19 to 23 deg. Centigrade (66 to 73 deg. Far.). The birth of the young queen was then retarded from 3 to 6 days, when returned to their colonies two days after. Many pupæ died on account of the low temperature. In experiences of this kind, when the thermometer is attentively watched to find the degree of heat in the brood chamber one can with certainty ascertain the time that it will take for the young queens to emerge from their cells. In the absence of a thermometer, all the observations that can be made on the duration of the pupa state, are valueless for scientific bee-culture.

We can divide the time that it takes for a queen to hatch in three parts, as follows :— From the time when the egg is laid. From the time when the larva leaves the egg. From the time when the larva is chosen as royal larva.

You should proceed with great care to calculate the time during which a queen lives in the brood state. No certain result can be arrived at, if we take a common brood comb and employ it for experiment, for in this case we do not know when each egg was laid that will be chosen for a royal larva. To ascertain exactly the time when the egg is laid I introduce an empty comb, clean, in a rich colony whose queen needed room to deposit her eggs. After half an hour, I found this comb occupied with eggs. I removed it immediately although it contained but five or six eggs. If I had waited until it was entirely occupied with eggs I would not have known at what time the eggs had been laid. I did not give this comb to a newly made artificial swarm, for such a swarm is not quiet enough to insure that the egg will be properly cared for, on account of the excitement caused among them by their having been queenless for a short time. It often occurs in such swarms that the bees when hunting for larvæ, extract the eggs from the cells. In such a case the experiment would be without result. I preserved colonies that had been queenless for some time already, especially for this purpose. I removed all the unsealed brood from one of these hives and replaced it with that comb containing but a few eggs. Now these bees were obliged to raise a queen from eggs of which I knew exactly the time of laying. But here again one might mistake, if we did not use the thermometer in the brood chamber, and if we did not ascertain that the eggs are continually and properly hatched, for if they lack the proper heat, the period of development of the egg will be prolonged further than the normal time.

To know exactly the hour when the eggs were laid we can also form an artificial swarm with a laying queen. By giving this swarm clean empty combs, two hours afterwards, eggs will be found in the cells.

For the American Bee Journal.

Bees, Wasps and Grapes.

Some persons imagine that the bees injure fruits and especially grapes. They are greatly in error. It is useful to insist on the part taken by bees and hornets in the prejudice done to our vineyards. First let us consult the books. I do not find a single book on agriculture or horticulture, fruit or grape culture, that does not cite the wasp among noxious insects that should be fought incessantly and mercilessly ; while not a single book mentions as such the industrious honey-bee, whose vindicator I now am.

The wasp pierces the fruits ; to the grapes it leaves nothing but the skin and the seeds. The bee only profits by those spoils ; for she usually goes from blossom to blossom, gathering honey in gardens and fields. If at times she is seen in orchards or vineyards, where she only goes after the wasps, it is only to gather the remains of the feast.

Curious experiments have been tried, it appears : Some sound fruits were placed simultaneously within the reach of both wasps and bees, the former have soon achieved their work of destruction, while the latter starved to death.

Therefore, bees do not eat grapes. So, it is with profound conviction that I say to those who wish if not to prohibit, at least to render impossible the establishment of hives in the neighborhood of large cities, under the fallacious pretext that they destroy grapes. Respect the bee, since she respects our fruits : let her live in peace near us, she never will be ungrateful. Is she not the mysterious instument that helps and facilitates the phenomenon of the fertilization of flowers, and perhaps produces those innumerable and beautiful varieties by carrying pollen from the calycle of one into that of another ? Is she not the living image of work, that gives us the perfumed honey and the wax that we use so diversely ?

Respect the hives, leave them where the industrious genius of man placed them, for they are a source of wealth for the roof that shelters them, and for the country that nourishes them.—*Rucher du Sud Ouest.*

September, 1874.

Always feed your bees for two or three days after they have swarmed, be the weather fair or foul. They will repay your attention and your liberality with usury, before the season is over.

Correspondence.

For the American Bee Journal.

Odd Tidings.

The "Proposed Remedies," No. 1, pp. 18 and 19, 1875, are excellent, but will not prevent failures in safely wintering bees, while paying no attention to that most important factor,—quality of the honey!

"Novice" is right in saying, that the nature of honey has much to do with it. I experienced and witnessed this many times; but the best testimony is given by Baron von Ehrenfels, the too-long forgotten master in the kingdom of queens and bees, who will find his resurrection amongst the bee friends of this new world.

In his excellent, old treaty or bee-book, this man of 1,000 hives, in olden times, tells us about bee-dysentery as follows: "At Stollhof, in an apiary, next a pine forest, I wintered 300 stocks, weighing from 30 to 80 lbs. The winter was a hard one and therefore much honey was consumed for keeping up the warmth. In March and April, 1801, I found more than half of the colonies so very unpeopled, that often the queen was left with only 20 to 30 worker bees in a honey-store of 40 to 50 lbs. It crawled around, discouraged and alone, smeared by the droppings, the fly-holes coated by it, and the workers, swollen bodies, lay motionless scattered on the hive!

"I guessed quickly the cause, else I should have lost all stocks. In a hurry I ordered from my traveling apiary, near Vienna, flower-honey and buckwheat honey, strained pure and cold, that is got out of the combs without any crushing or melting, fed this in open troughs, often and plentifully before the stands. All the workers who could make efforts enough, went for this honey and, just now, dysentery ceased, brood and bees multiplied daily, and stocks, many weakened down to 100 workers, recovered!

"So, in forest regions, honey abundance turns out to be more dangerous than honey dearth. Miraculously, here also in other cases, I always saw the queen being the last to die. After all workers were dead, she alone was left living. Wherefrom this durability, this conservation? Never taking honey out of the cells, but ordinarily out from the mouth of the workers, even in this case she gets warm honey and probably fresh digested for her, insuring and saving her from being poisoned."

I say by this kind and quality of honey, most abundantly and extraordinarily produced from other organs, processes and sources than flowers, richly flowing, dropping like dew—honey dew—hurriedly gathered, stored and sealed, and so not enough, not twofold or twice digested, that is neither first by the proper organs of plants (the blossoms) nor finally and sufficiently in the stomach of the bees. And now you see, even a fly-spell under glass, muslin and the like would not help and save your pets from this bad occurrence. But your bees can be cured and saved from death by dysentery when this fatal diseased is caused by the bad effects of the three kinds of honey,—dew honey; unripe, (thin or unsealed); sour honey,—or artificial food.

But "prevention is better than cure," and therefore each bee-keeper ought to prepare to preserve and to feed in the right time and manner, this only one safe and normal, natural winter food,—full combs of (or extracted, swung out) blossom honey, (best from buckwheat) and ought to keep always a full reserve of such pure and healthy feed honey on hand for his own and other bees.

APIPHILUS.

For the American Bee Journal.

Down With the Importation of Bees.

In the last convention of the North American Bee-Keepers' Association, a few bee-keepers have fired at the importation of bees.

Mr. A. Benedict was first to begin the fire. He said that he supposed that there were hybrid bees in Italy. Upon reading this I wrote to our friend to know on what he had based his supposition. But in his answer, he could give nothing definite. He had seen some so-called imported queens, who were undoubtly impure. But, for himself, all the imported queens he had received were pure, and gave him the best bees.

The second bee-keeper who spoke against importation was Mrs. Ellen Tupper. Mrs. Tupper has since denied, in the AMERICAN BEE JOURNAL, what Dr. Rush had reported of her sayings; so I have nothing to ask but the names of the many bee-keepers who with Mr. King, complained of having received impure imported Italian bees, with the names of the importers. I will here notice that in a few months Mrs. Tupper has greatly changed her mind as to imported bees. In France we have a saying: *Souvent femme varie*, (Often women vary) and Mrs. Tupper shows that she is not an exception.

It seems that Mr. King is endowed with the same qualification, for, two years ago he asked praises for the importation, that he opposes to-day. As I like well-defined positions, after reading the assertion that he has seen impure Italian bees in Italy, I wrote him, to know the name of the apiaries, where he found these impure colonies. He answered, the same as Mrs. Tupper, that the report of Dr. Rush contained many errors, corrected, in part, in the *Bee-Keepers' Magazine*. In this paper Mr. King corrects indeed, some of his sayings, but he maintains that he saw impure bees in Italy. I wrote a second time asking for the name of the apiarian. "Mr. King thinks best to mention no name." Best! for whom? For me, or for Mr. King? As it is not for me it is therefore for him. Yes! and as I know the why, I will disclose it to my friends. It was at the apiary of Major Hruska, that Mr. King saw, or said that he saw, impure bees. In narrating the fact Mr. King adds: that Mr. Hruska told him that these bees were brought to his apiary from other parts. Now, when Mr. King and Mr. Hruska were face to face, they were both in great embarrassment. Mr. Hruska could not understand Mr. King, and Mr. King could not understand Mr. Hruska. The one could only speak German and Italian, the other only English. Hruska, who is a rich man, worth about $300,000, is apiarian by pleasure, and enjoys

his time in experimenting. He had received black bees to experiment on the pathenogeneis. and these stocks, or their offspring, were those that Mr. King saw at his apiary. But why is it that Mr. King does not think best to mention the mame of Hruska? Aye! there's the rub. A few months after his return from Italy, Mr. King received 18 stocks of bees from the same Maj. Hruska, and advertised them in his paper for $30 apiece, as *unquestionably pure*.—See the *Bee-Keepers' Magazine and National Agriculturist*, of Dec., 1871, p. 92, 1st column. Thus the words, burning shame, and other flourishes, which seasoned the speech of Mr. H. A. King, against imported bees, fall on his own head.

Now I will pay to Mr. King $200 for the name of a bee-keeper in Italy having hybrid bees in his apiary, unless they were imported there from outside of Italy. We will appoint the president, cashier, and secretary of the Central Society of Bee-Keepers of Italy, all three men of honor and reliable, to ascertain the fact. And if the assertion of Mr. King proves true I will pay all the charges of ascertaining the fact. If the assertion is proved untrue, Mr. King will pay the charges, but these charges only.

I know in advance that my offer will remain a *dead letter*, as did the offer of Mr. Furman about the fertilizing of queens in confinement; but it will end the accusation of impurity of bees in Italy.

Let me say that I know the motives of these attacks against the importation of bees and that I will disclose them in the JOURNAL if my opponents desire it.

Had not my name been mentioned by Mr. Bingham, in the Michigan Bee-Keepers' Convention, I would have let pass unnoticed what he said about imported bees. But he said, "if Dadant could get a queen good for four years, he could stock the whole country with queens." How does Mr. Bingham know if my imported queens are long or short lived? He has never received one from me; besides I dare him to name some bee-keepers complaining of having received short-lived queens from my importations. I suppose that before complaining to Mr. Bingham, these bee-keepers would have complained to me first, and I have as yet received but one complaint. The Italian bees are as long lived as the black, the only difference is that as soon as the Italian bee begins to show signs of prolificness, she is replaced by her bees. While the black bees preserve their queens even until she becomes drone laying by old age, and that difference is to the advantage of the Italian bees and their owner. But Mr. Bingham has never had confidence in the Italian bees, and I remember having seen some articles by him against them, a few years ago. It is therefore little to be wondered at, if he was opposed to the importation of queens in a paper which condemned, in emphatic terms, the promiscuous importation of Italian bees. As I am the only regular importer of Italian bees, I suppose it is my importations that Mr. Bingham aimed at, and I want to answer, when the American bee-keepers were receiving queens from Germany, Tyrol, Switzerland and Italy, the term promiscuous was applicable. But I receive my queens from one of the best bee districts of Italy. The man who sends these bees is reliable and honest; he owns 300 stocks of bees and I pay 30 per cent. more per queen than their value in Italy, to get only young and prolific queens, tested from chosen stocks. Is that what is commonly called promiscuousness?

Mr. Bingham adds: "In carrying queens from apiaries affected with foul brood, it will communicate the disease; hence the great danger of importing bees." Now if Mr. Bingham can point me to a bee-keeper able to read the Italian language I will send him the full collection of the Italian bee paper *L'Apicoltore*, and I will give Mr. Bingham ten stocks of bees if this man can find in the whole seven years, a sole complaint of foul brood by an Italian bee-keeper. Foul brood has never existed in Italy. If foul brood could be imported with queens, I should be the first victim, as every queen, as soon as received is introduced into a colony of our apiary till she is rested and has commenced to lay. But I am less fortunate than Mr. Bingham, I know the foul brood only by books and hearsay, for I have never seen that malady in our apiary, nor in our neighborhood.

I think that Mr. Hester will find in this article an ample answer to his article on the purity of the Italian bees in Italy. If he could come here in the beginning of April, I would visit with him sixty stocks of bees with imported mothers, and to show him that he was too hasty in judging imported bees from the bogus imported queens that he had received.

CH. DADANT.

Hamliton, Ill.

For the American Bee Journal.

Shallow or Tall Frames.

I have just been reading in the Feb. number of the JOURNAL, which came promptly as usual, the report of the Michigan Bee-Keepers' Association at Kalamazoo; and as a whole I regard the meeting as a very useful one; and the report contains many good things and useful suggestions. But then there are one or two things I notice that seem very strange. For instance, Mr. Bingham gives us some of the "tallest" special pleading in favor of shallow frames, that I ever read.

Now, Mr. Bingham is no doubt a successfull bee-keeper; but his reasons (?) for the use of the shallow frame (except that of facility of handling) are, it seems to me, as shallow—begging his pardon—as the frames themselves. He says: "Small shallow combs give more brood early in the season. Heat ascends sooner than it radiates: hence in tall hives it is lost." I can't see how Prof. Cook could listen to such assertions as these. Now let us see what these reasons amount to.

1st. Heat or heated air ascends. True,—but wherefore lost? Can you tell us, Mr. B.?

Now, I am only an amateur and consequently not "set in my way" about any particular form of hive; but what little experience I have had goes to prove the opposite of the proposition, and in favor of the deep frame, and I think I can tell *why*. And, first, the air of a hive may be likened to strata lying horizontally upon one another, and numbered for convenience, say from 1 to 5 from bottom to top, and growing warm as you go from one to five. Secondly, bees cluster either outside or inside a hive

when left to themselves, in a compact mass and shaped like an egg; or to speak mathematically, an oblong spheroid. Thirdly, brood rearing in early spring, other things being equal, depends on the temperature inside the hive. Fourthly, the brood must be at that time of the year conform to the shape of the cluster. For example, we will take a frame say 10x15 inches; lay it down, *a la* Langstroth, and place your cluster of bees on it. Now, I claim that if the cluster preserves its normal shape the brood nest will be nearer the stratum of cold air at the bottom of the hive, than if the frame was turned longest end up and down; because the bees will cluster in the highest portion of the hive where the air is warmest. If a cluster of bees belonging to me stays up in the top of the hive where the air is warm, and a similar cluster belonging to Mr. Bingham spreads themselves out along the lower portion of the hive, I don't believe that even Mr. Bingham can get his bees to begin rearing brood any earlier than mine will, or get more brood in the same time.

I use a frame 12x12 and notice that my bees, now in cellar, all get as high up in the hives as they can.

I have no doubt that for facility of handling the shallow frame is best; but when you have said that, you had better stop. In the 12x12 frame I have struck, I think, between the extremes and can handle it easily enough.

R. J. COLBURN.

Chicago, Ill.

For the American Bee Journal.

Some Items.

If perchance somebody had been peeping through the cracks of our tight board fence, about the last days of June, they might have seen that your humble servant was not in a very pleasing mood, but was a fine subject "For Blasted Hopes" (see Gleanings in Bee Culture.) And now we will try to tell you what had ruffled up our feathers. We couldn't make those golden yellow-jacket bees work in boxes. We determined in April, that we would build up a given number of our stocks, so that their hives should be running over with bees by the time fruit trees were in bloom. We did so, selecting Italians, blacks and hybrids, as our apiary contains about her equal number of three banded blacks and hybrids.

In May we had 33 swarms, so we built up 20 by removing brood from the rest, such as could spare any. By the time white clover bloomed our 20 swarms were ready for the boxes; so we put them on—and now mark the result: Hybrids and blacks entered them and commenced work immediately. But those golden beauties (as some one calls them) preferred to lay out of doors. A few bees would go into each box, and some of them started small pieces of comb, always building it upward and some built up and down at the same time, making miserable work. A black bee would have been ashamed to turn out such a job.

Some one may say, this is no fair test.

Well, for the last three years, our apiary has been stocked with the same kind of bees, and the great bulk of our Honey has been stored by the hybrids and blacks, while all have received the same care and attention, and for box honey I will give more for a black or Italian queen that has mated to make a first cross, than for a pure Italian.

And yet I do admire them and honestly believe that they will store considerable more honey than blacks, providing the extractor is used exclusively; but I must have bees that will store box honey, for you know that is my hobby.

Some one may say, your hive are not right or the boxes are not adjusted so that the bees can enter them without much trouble. Our frames are 12x12½; we use from 8 to 13 in a hive; we use glass 5x7 inches for ends and tops of box scant ¼ inch thick for bottom. We get pine lath dressed to 3-16 thick; we cut them to length, and put them on the edge in mitre box and saw down ⅝ and split out the piece. After they are nailed on the bottom you have 3 slots 5½ inches long ⅝ wide in each box. Our frames drop 3-16 or nearly ¼ below the top, and when we put on boxes, we lay on a strip 3-16 on top of frames, right through the center, and then put on the boxes, resting on the top of hive and strip. The bees can then get into the boxes from any point, without a guide post, and if any one has anything that is better, and will give better results in box honey, send it at once to our good old A. B. J. for we want all the best plans we can get.

SIZE OF HIVE FOR BOX HONEY.

After using 3 different sizes of hives, respectively 8, 10 and 13 frames, we have come to the conclusion that 10 frames suit us the best, for box-honey. This size will accommodate 6 boxes, about 40 pounds. We sometimes wonder why some writers to the JOURNAL recommend box room for a hundred and fifty pounds all put on the hive at one time. Experience teaches us that no ordinary hive will furnish bees enough to work in more than 6 or 8 boxes from 40 to 50 pounds, at any time. We will admit that possibly they might enter a dozen boxes and build more or less combs in all of them, at the same, time, but we prefer to have on just as many boxes as they can fill. If the flowers are yielding honey 6 boxes will be filled before they send out a swarm, but if you had 12 boxes on, you would have more or less in all, but none filled; neither will it prevent swarming.

When we hive new swarms in our 10 frame hive, if we have no combs to furnish them, at first we put two swarms in each new colony, about 3 or 4 days apart; and put on boxes when we put in the last one. The first swarm furnished just bees enough to carry on the labors of the main hive, and the last swarm will furnish bees for the 6 boxes, and all will have plenty of room. If honey is plenty you may expect two setts of boxes filled, and a rattling swarm the first of August. We had swarms last year that gave us 18 six pound boxes, and swarmed in August.

As I said before, the Italians have a fashion of building upwards, through the slats in the box, and guide combs must run the same way or your combs will be in all sorts of shapes. We always get dark or fall honey, broadside to the glass, for this reason it looks much better than crosswise.

Many articles in the JOURNAL, from various sources, affirm that black bees amount to nothing in comparison with Italians. This certainly has not been my experience, and sometimes I am almost led to ask, if they give them an equal chance with Italians.

BETTER THAN QUILTS.

May 1st, 1874, we had a visit from a brother bee-keeper, and went to examine our bees, to show how they were doing. He said "I never saw so much brood as you have in your hives, for the same number of live bees." This is the way we got it: A box on each hive 4 inches deep; some kind of woolen tacked on for a bottom, 3 inches of wheat bran packed down firmly, and quilt nicely tacked down on top: when we put on the cap or cover we raise the quilt and the bran is warm as toast. J. BUTTER.
Jackson, Mich.

For the American Bee Journal.

Winter Passages—Machine for Cutting.

Those who are in the habit of making winter passages in the comb (as all should do who undertake out door wintering,) will at once see the utility of the implement I am about to describe.

I make a tin tube 3 inches long and ¾ of an inch in calibre, on one end I cut teeth similar to those of a rip saw, through the middle of the tube there is a slot in which to drive a tack to hold it in position while turning. I then make a wooden piston to fill the tube, insert this into the tube, drive your tack into the slot, and you are ready for work. To use it, you simply draw out the piston, turn until it locks itself; place it against the comb, turn it half round and push it gently through and the work is done. To prevent the bees from filling these passages in the summer, I take a thin pine shaving (⅞ of an inch wide) and place it in the cut, the bees will do the rest.

I have used this implement for three years past with much satisfaction, it is a decided improvement when compared with a knife used for the same purpose. "B."
Beaver, Penn.

For the American Bee Journal.

My First Year's Experience in Bee Culture.

I commenced in the spring of 1857 with two old box hives, in the last stage of decay from the moth, with all the care and attention I could give, increased my stocks to 20 in three years and sold not a pound of honey, the war closing out my stocks. I learned two important facts with box hive, that where the bee went, the miller would. Secondly, without some good work on bee-culture one had as well devote his time to other pursuits. But on investigation of the improved system, with the movable frame hives, I determined to make one more attempt at bee-keeping. So in the spring of 1873, I procured the two-story improved Langstroth hive. (I will add and make my own hives, what all bee-keepers should do) I bought of a friend, two box hives of black bees, paid $3.00 each. May 8th had a fine swarm to issue, hived them in my new hive all right, eager to have my bees in my new hives the same evening I transferred the mother hive, did a good job for the first got one sting, but dark found me gathering up the young bees crawling in every direction. Now don't smile old bee-keepers, you can imagine my feelings next day on examination to find young brood all dead, with my new hive full of good worker combs. I went immediately to my friend paid $1.00 for a swarm, introduced them and they did well. So much my young bee-keepers, for not having the A. B. J. or L. L. Langstroth on the honey bee, both of which I have now, that would have instructed me to wait 15 days before making that transfer. I bought July 10th two more box hives, paid $3.00 each, transferred them all right. I will not give in detail, my mode of transferring, you had better have your information beforehand. I bought of Dr. T. B. Hamlin, of Edgefield Junction, Tenn., August 3d, two full stocks of Italians in the transport box hive, paid $12.00 each and at the same time three tested queens paid $5.00 each, and with Dr. Hamlin's instruction on the mode of introducing queens. I destroyed 3 of my black queens, after six hours, removed honey-board placing my caged queens on the frames, over the greatest cluster of bees, in twelve hours, (had put four workers with each queen) on examination, found three of workers in two cages dead, the third all alive, and in twelve hours more, found the two queens and remaining worker all dead, and in the third found all alive, which I liberated in the usual manner, and I was in trouble again. Season far spent and my stocks getting low, I made known my loss to Dr. Hamlin and he agreeing to share half my loss, sent me two more tested queens for $5.00. Now some twenty days had transpired. My two queens received, on examination found two fine plump black queens, killing them and after waiting six hours, I commenced by moving my frames from the center, leaving room to place my cage, end down between the frames, supported by a wire pin across the frames, being sure to bring the cage in contact with honey, so if necessary the queen can reach the honey if neglected by the bees; and in forty-eight hours I had my two queens safely housed and would advise this plan to the novice.

I should have added if weather is cool place your blanket quilts over the frames. Now this brings us up to September 1st. My first queen has her combs full of young Italians, crawling and quiet. Something I had never witnessed in native bees. I am prepared to state the Italians far excells the black in gathering honey. I will add that the superiority and value of Italian bee has not been over estimated or half told. Now I have no stocks or queens for sale. They are the admiration of all who see them.

November the 1st, overhauled my seven stocks; found as I supposed sufficient stores to run them during the winter and fed some weak stocks some from those that had to spare. I then made some blanket quilts and straw mats. Such as C. F. Muth of Cincinnati, O., uses. My bees were out nearly every week through the winter, it being a very mild winter, my bees came through the winter safe, but we had the worst spring I ever saw in the South. Our fruit trees did our bees no good. I lost two stocks during February and March, and came near loosing the third; had I not taken it in my family room and fed sugar syrup, and kept it there forty-eight hours they would have perished. My bees made no surplus honey in 1873, all I got was in transferring.

I have in my yard young peach trees planted eight feet apart, with a hive be-

tween each tree, and a covering made of five clab boards; that is all the protection I have had. I dont think it sufficient shade; my trees were small and headed back well and will be sufficient the coming season. My hives are arranged to face the southeast, on an elevated point. Our people are taking some interest in bee-culture. We plant nothing here for our bees, they depend on natural supply, which is good some years, in our bottom. We have the poplar, holly, and maple, and from these the gums give us the most of our honey.

I desire to plant something, did I know what was best adapted to our climate. Will buckwheat do with us, and what time should it be sown? will some one tell us through the JOURNAL. T. A. SMITH.

Henderson Station, Madison Co., Tenn.

For the American Bee Journal.

Notes on Bee-Keeping.

Bee-keeping in these parts is far behind the times; the general impression being that it is a business that does not pay. Ask a bee-keeper to subscribe for the BEE JOURNAL and learn to keep bees right, and he will tell you that he knows all about them, that is necessary. Rather than pay two dollars for the JOURNAL, whereby they might form some idea of what a patent hive should consist, they will allow themselves to be humbugged as some have been the past season by paying three times as much for a patent hive, that is a disgrace to the little workers and when their bees are in they look no more to them until the time arrives as they suppose to take the surplus, but to their dismay the moth trap has been successful in hatching moths enough to eat up both bees and honey; such is the result generally.

I use a plain simple constructed hive with loose bottom and honey boards with back opening, frames set in from front to rear, size of frame 11x13 inches, inside measurement, and not less than eight frames to the hive, (no patent.) I used last season two of these hives one upon the other, making a two-story hive with ten frames in each; and once in buckwheat time, I extracted from this one hive four gallons of nice honey, with from three to five hives. I have honey for the table the year round while my neighbors with more swarms in box hives get no surplus. I have the only extractor that there is in my neighborhood.

There is another subject that I wish to notice; one which I have been watching with interest and which interests a great many. The question is asked by S. S. Elliot, (page 305 September number AMERICAN BEE JOURNAL,) how to purify wax and prevent its becoming of a dark color. I have not seen any answer to that question yet, and I will give your readers my plan. Heretofore the plan has been to take it through a process of boiling; but I use no water in extracting wax. Last season in transferring a swarm from a box hive to moveable frame, I had, as is always the case, some, some surplus comb fit for nothing but to be melted into wax; and having left them in the sun through the day, I discovered the sun had melted them and I had an article of pure white wax from the darkest comb; and acting upon that principle I procured a piece of sheet iron turned the edges up around, leaving one corner open for the wax to run out as it melted, placed it upon the stove elevating one side, and as it melted put in more being careful not to burn it; the result was I had a wax of beautiful yellow color.

In conclusion, I shall as ever press the claims of the AMERICAN BEE JOURNAL.

Adair, Ill. WM. G. WILKINS.

For the American Bee Journal.

Posting Up the Accounts.

We should now look over our last year's experience, and take into consideration our success and failures; examine into and find out the causes of both, so as to profit in the future by our past experience, and avoid failures hereafter.

The amount of honey taken by me last season, was about half as much per stock as the season of 1873, being about 28 lbs per stock: my increase was from 9 to 23. Our honey crop from linden, here, was splendid, and caused bees to swarm to too great an extent, as it was so dry here that there was no honey to be gathered from that time until after the middle of September; that being the first time that we had any rain since the middle of January. We had several days in July and August with hot southwest winds that cooked vegetation to some extent. The thermometer raising as high as 114.

I had two stocks out of the 23 that were very strong. They stored honey all through the season. My medium stocks about held their own; light stocks decreased in weight. That makes it evident that in a poor season, strong stocks are necessary. I fed about 300 lbs of sugar this fall, as an experiment to see whether it would pay to feed to any great extent here, in the fall, or not.

ED. WELLINGTON.

Riverton, Iowa.

For the American Bee Journal.

Proper Winter Temperature of the Bee House.

In the Report of the U. S. Patent Office 1850, Department Agriculture pp 90-91, is given some account of observations on the winter temperature of the bee hive, made by Prof. Newport. His experiments show that the temperature of the air in the bee hive and right in the cluster of bees may be as low as 30 degrees or two degrees below the freezing point. Upon one occasion the thermometer in the external atmosphere stood at seventeen degrees, the one in the bee hive stood at thirty degrees, but upon rousing the bees by tapping on the hive it rose in sixteen minutes to seventy, or fifty-three degrees above the external air. He states that the bees are torpid only at a moderate temperature, as it grows colder they generate heat by motion and quick breathing so as to considerably modify the temperature of the hive.

Although it is quite common for bee-keepers to winter their colonies in the cellar, I know of very few attempts to control the temperature and to keep a record of the winter temperature of bee houses and cel-

lars. A cellar that will keep fruit is considered good, yet the thermometer may work as low as 28 or 30 degrees and the fruit not be frozen. This appears to me to be quite too cold. My colonies are kept in a cellar. have ventilation above and below so that the air in the hive must be at very nearly the same temperature as that in the cellar. Now I have observed that the bees are more quiet when the mercury stands at forty-one degrees than when it is either several degrees above or below. From repeated observations made during last winter and this I can judge pretty well as to the temperature, by the sounds issuing from the hives. Upon allowing the mercury to sink to thirty-six degrees, the increased noise of buzzing told plainly that the bees were trying to keep up the temperature. I warmed up the cellar to forty degrees in four hours, and twelve hours after the bees had quieted down to their former condition. Of course it is easy enough to keep the temperature from falling below 40 or 41 degrees, but quite another matter to keep it from rising above that during warm spells of weather, at least it is so in Northern Kentucky; and just as soon as it becomes impossible to keep the temperature below 48 or 49 in the spring time, I move my bees out to their summer stands. As to the other conditions necessary to successful wintering, such as absence of light, moisture, and disturbance from the cellar, they are much better understood than the proper temperature; because their effects may perhaps be more easily traced back to their causes. But I would urge upon every bee-keeper, who houses his bees in winter, the necessity of keeping a record of the temperature of his depository, if not daily, at least at every marked variation of the weather. It may be, that in trying to comply with the conditions for successful wintering in the cellar, we have overlooked one of the most important.

January, 1874. W. C. P.

For the American Bee Journal.

"A Friend or Enemy."

EDITORS AMERICAN BEE JOURNAL:—In reply to Mrs. L. Harrison's communication in your last issue, permit me, for the present, briefly to say that your correspondent not only fails to quote my language correctly, but that she misconstrues and falsifies my statements. My statement that the Phylloxera is more injurious in a clayey than a sandy soil, was made in reference to the root-inhabiting form; while Mrs. H., lacking a proper comprehension of the subject, evidently has reference only to the leaf-inhabiting form. In what I am quoted as saying about the honey bee in its relation to horticulture, my language has been so garbled, and my statements so perverted that no greater injustice could have been done me even by one filled with malice and bent on carrying a point by fair or foul means. I beg of your readers, therefore, in weighing my opinions and statements, to consider them as given over my own name rather than as presented by others. In speaking of the injury bees sometimes do to fruit I used no uncertain, but quite positive, language; and as no one has ever read anything from my pen that would warrant the charge of my being an enemy to the honey bee—however much others may have misrepresented me—I fail to see where I have "come down," to use the elegant language of my censor.

In reference to the statement of Mr. Gaston that the great nation of Russia * * * are importing bumble bees to fertilize the red clover;" while there was scarcely any necessity of correcting it at the time it was made, I may as well state, since it is repeated, that New Zealand and Australia, where the bumble bee is not indigenous, are the countries that have been considering the question of importing the insect, in order that they may no longer be obliged to import all their red clover seed. Russia has no need of such action. C. V. RILEY.

St. Louis, Mo.

For the American Bee Journal.

Chips from Sweet Home.

It will be remembered by the readers of the AMERICAN BEE JOURNAL, that we were among those who lost heavily in bees. It is now Jan. 22nd and there is no sign of the disease. We think the disease was caused by confinement on poor honey. Last fall we fed two hives or rather put in some combs we had saved from those that had died, and as yet I see no difference. Our bees (100 hives) are in the west half of the cellar, a partition running through the centre, we filled the two opposite window holes with straw, we can raise the windows and have a current of air without admitting any light, but find the bees quieter with the least circulation. The only ventilatation I give is an opening in the base of chimney which carries off the damp air. One morning I heard quite a roaring among the bees and upon examination I found the noise all proceeded from one hive, with my knife I raised the honey board a little and all was quiet. The theomometer has ranged from 40 to 45 deg.

B. Miller, of Lee Co., Ill., in answer to some questions from me on wintering bees, said: "I never lost but two hives in wintering. I winter in the cellar, never allow the thermometer to go below 35 deg., never disturb them, give plenty of ventilation both in the hive and in the cellar, leave the whole front of the hive open and push the honey board forward so as to leave a half inch crack at the back, extract 2 or 3 frames and put the empty combs in the centre, put in cellar the last of October and take out the last of March."

SELLING SLUNG HONEY.

We can make more money in selling slung honey at 15 cents than box honey at 25 cents. But there is the trouble *to sell.* Seeing that others were successful in selling it in small jars nicely labeled that "they went off like hot cakes," we were induced to put up over 500 lbs. in jelly jars, nicely labeled, and started out, passed through the town where "slung honey in jars went off like hot cakes," but the grocerymen told me it would not sell although they had them piled up right in view; and from a man they knew, I sold some of my jars and left most of it on commission, but they write me: "Have tried to sell your honey but can't. And now I have offered to exchange 332 lbs. for 100 grape vines, and return the jars. I sell a good deal of slung honey each year, nearly all in the county, and prefer it

to be candied, I sell some for money and a consideuable for trade, *e. g.*, I paid $4 and the balance in slung honey for a bureau, 100 lbs. for a 2 year old Durham heifer, 275 lbs. for carpenter work, some more to mason, some for corn. A neighbor told me that he was putting up a variety of Illinois fruit for some friends in Indiana, I suggested putting in some of our honey, he got 21 lbs., and brought a neighbor who got 6 lbs., he thought his friends might want a barrel of honey; my blacksmith's bill is paid in honey, &c., &c. My neighbors prefer the slung honey because it is cheaper and healthier, and no wax in it. Many persons cannot eat honey because it gives them colic. I have yet one of such to find who cannot eat slung honey when candied solid. Last fall neighbor M. told me he wanted some honey and would take more but his wife could not eat it, the last time she tasted it he went for the doctor. When he came for the honey he brought her along and she ate liberally of it and it had no bad effects.

We would advise all bee-keepers to make home sale of slung honey, and if city style will have comb honey make them pay for it.

D. D. PALMER.

Eliza, Mercer Co., Ill.

For the American Bee Journal.

An Address

DELIVERED BEFORE THE SOUTHWESTERN KENTUCKY BEE-KEEPERS' SOCIETY BY DR. N. P. ALLEN, THE PRESIDENT OF THE SOCIETY, ON DEC. 30, 1874.

The objects of this Association are to advance the science of bee culture, by associating in one body those who are interested in bee-keeping.

The importance of association when there are common objects to carry out will be readily conceeded.

The value of consultation about matters in which all are interested, and especially where there is room for difference of opinion cannot be over-rated.

We have our Agricultural Societies and our Granges to look after the great foundational industries of the country; and conventions and meetings are held all over the land in order to carry out the ends for which they were organized.

No sensible individual undertakes to carry out solitary and alone the ends he is aiming to accomplish when there are others equally anxious to succeed in the same direction, with whom he can consult and cooperate. There is no class of men whose interests calls louder for consultation and association than bee-keepers.

When we take into consideration the fact that bee culture is both a science and an art; that but few in our land have any knowledge of the great discoveries or inventions that have been made; that the mass of bee owners are ignorant of even the simplest operations of the apiary. It behoves us to do all we can to dispel the cloud of ignorance which over-hangs them, and so far as we can to impart that knowledge by which they may prosecute bee-culture successfully.

I regard bee-keeping in this country in its infancy. I feel sure that the great foundational principles of success have been attained with the movable frame hive, the honey extractor, and the Italian bees. There is nothing wanting but a thorough knowledge of bee culture and a determination to succeed. There are a large number of determined men in the northern States that are producing honey by the ton, they are realizing large profits from the labor of honey bee, many of them are growing rich, and why can we not as well as them, when our gardens, fields, and forests are strewn with flowees rich with honey?

Bee-keeping has taken a high stand among the productive industries of the world, and many are reaping a rich reward in its pursuit.

Honey as food for man was of sufficient importance to be recorded in the sacred Scriptures: "Sampson enjoyed a rich feast of honey taken from the carcass of a lion." John the Baptist while he was preparing the way for the coming Savior, dined upon locusts and wild honey.

It is absolutely certain if man is to have honey the bee must collect and store it for him, and it is none the less certain that the proposition of honey gathered and made available for human use is very small compared with what might be got if there were bees enough to gather it.

The question, will it pay? is the question that interests most persons, in the various pursuits of man. I answer that bee-keeping, like all other pursuits, has its successes and reverses, but I am fully satisfied that it is no more subject to failure and disappointment than any others.

I am aware that many who have bees fail to realize any profit from them, but that is no reason why they should not. If they were to give their farm stock no more attention and care than they give their bees they would prove even more worthless than their bees.

There is no good reason why our land should not flow with milk and honey. We could, if we would turn our attention to it, procuce tons where we now produce pounds. It does not take long to learn to swarm bees artificially, and thereby insure increase of stocks, nor to Italianize our black bees and cultivate a superior race of bees that are more prolific and better honey gatherers. We can soon learn to extract the fluid honey and return the comb to be filled again, in fact all the operations of the apiary can be learned by any one who will give it their undivided attention, for there are no secrets in bee-keeping. But in order to accomplish this we must use exclusively the movable frame hive. We cannot succeed to but a limited extent with the box hive. Then I would earnestly advise all who are interested in bee-keeping, either for pleasure or for profit, to get the movable frame hive, and transfer your bees into it. Procure a honey extractor and thereby increase your honey to an unlimited extent. Take the publications on bee culture, I would recommend the AMERICAN BEE JOURNAL, *Moon's Bee World*, and *Gleanings in Bee Culture*, as invaluable to those seeking knowledge in the management of bees.

It is said that he who causes two blades of grass to grow where but one grew before, is a benefactor of his race; and it can be no less true that he who causes two pounds of honey to be made where but one was made before, is a benefactor, and a blessing to

mankind. Then let us strive to obtain a high stand in our favorite pursuit by storing our minds with that knowledge that will enable us to overcome all difficulties that we may have to encounter and to surmount every obstacle in the pathway of success.

For the American Bee Journal.

How to Save a Queenless Stock.

On a bright warm day in February, I examined a number of my hives, to see if they had sufficient stores and if the queen was laying. In some hives, I found more, and some, less, of sealed brood, all except one had eggs and larvæ. One hive on examination proved to be queenless. There was plenty of bees and stores enough to last until the honey harvest. I gave them a card of comb from one of my strongest stocks with sealed brood, larvæ and eggs in it. I closed the hive up and did not open it again until April 11th, as the weather was cool and not suitable to open the hive. I found that they had made three queen cells; the cells were open but no queen cells could be found in the hive. I gave them another card of brood, and on May 2nd, a beautiful day I saw the queen as she returned from her bridal tour with unmistakable evidence of her impregnation; and I gave them another card of brood in a few days. She began laying and soon filled the hive with bees. The queen was pure Italian and was impregnated by a pure drone, and that hive today is as valuable as any hive I have. I winter on summer stands altogether. If we would raise early queens, we should hardly fail to get them purely impregnated as the Italian drones are earlier than the black drones.

N. P. ALLEN.

Smith's Grove, Ky.

For the American Bee Journal.

Candied Honey—Empty Comb.

I was sumwhat surprised in reading Dadant's article under the above caption in the Feb. No. of the JOURNAL. He says that to want a means of preventing honey from candying is the same as to encourage a fraud. Now my extracted honey had always candied until the present winter. None that I put up in one and two lb. glass cans has as yet candied and we have had as cold weather as we ever had for twenty-five or thirty years.

Last spring I read an article in the JOURNAL from C. Muth, on "how to prevent honey from candying. His directions were to let it set in a cold and dark room for a day or two after extracting, with no top on the vessel it was in and skim off carefully then cover. This was to give it time to work and send all the impurities to the top. I treated my honey in this way and no other, and if it is not pure, I ask Dadant to say in what has rendered it impure. It was fully sealed when extracted and very thick honey, but as it has not candied yet; it is according to Dadant impure. I never thought of honey being impure that did not candy or I would never wished to know how to prevent its doing so. Every one who has bought this honey pronounces it the very best.

I like candied honey myself better than I do that that does not candy, but we read in the JOURNAL that candied honey did not sell so well as the liquid; that it looks like a can of lard. Dadant's reasoning is good if he can explain why mine and Muth's honey in glass jars didn't candy. I did not, nor would not, mix a single ingredient with honey. Also it has been in as cold a place as the rest of the honey that candied every other winter.

It is plain that my honey this winter has not come up to Dadant's test of purity; I have given the simple and plain facts how it was treated and put up in the sealed cans. It now remains for Dadant to say why it is not pure, if he can.

EMPTY COMB.

I see in several Bee Journals and also by my correspondents an enquiry for empty comb. This is a move in the right direction, for very few know the real value of such combs. Hundreds of pounds of nice worker comb is yearly melted into wax, by those who would have gladly sold it for the price of bees-wax. But we had better watch and be careful from where it came or we may bring disease among our bees by means of it. I have never yet experienced the bee-disease, and would willingly give every stand of bees in my Apiary to prevent it. I believe that foul brood and dysentery are diseases among bees, but I very much doubt whether there are any other. I do not believe there is such a thing as Bee Cholera.

Lowell, Ky. R. M. ARGO.

For the American Bee Journal.

Numbering Hives.

I have received much information from bee books, and as far as I am able, will do my share in giving information to promote the cause. There is one particular branch that ought to be known to all, especially those thot remove their bees from their summer stands, and that is numbering. It is said by one standard writer that it is all a whim, but if he has ever read the Pilgrim's Progress, where he often stepped out of the straight and narrow path, he will take warning and not use unkind words, because others do not agree with him. I know whereof I speak for I have had two cases this spring. Last fall I had three Eureka hives, and left them on their summer stands; two were near together and one a rod off, so I removed it near the other two, and in February there was a warm day and they all had a fly, and the bees from many of them went back to their former home and if there had been another hive of bees there, they would have tried to go in, then it would be said they were robbing. At the same time I took some bees out of the cellar, and by mistake moved two hives three rods from their former stand, and on coming out many of them went back to their former stand, and had there been other hives there, they would have tried to go in, and a stranger would have said "your bees are robbing." Now let the unbelievers try the experiment place some hives on their former stands and misplace others and see which are robbing.

Marcellus, N. Y. A. WILSON.

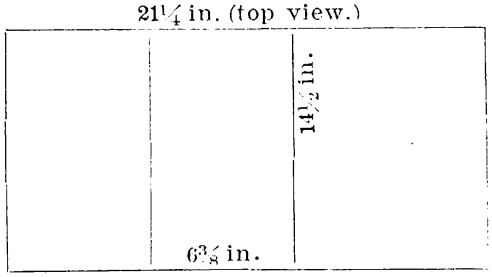
Is it a fact that first swarms issue in the forenoon, and second in the afternoon?

Getting Honey in Frames.

A PAPER READ BEFORE THE MICHIGAN BEE-KEEPERS' ASSOCIATION, DECEMBER 16TH AND 17TH, 1874.

I will here give a description of the small frame for surplus, as we use them here. First, the frame that holds the small frames we call a case. It is similar in construction to the clamp that holds the boxes but requires more accuracy in construction, more lumber, and some glass.

The Langstroth hive we use measures on the outside 21¼ inches in length by 16 inches in width, and I will give the dimensions to fit that size, as I think I can convey the idea more accurately in that way. The size can be varied, however, to fit any hive.



Take ⅞ inch thick stuff by 6¼ wide, and cut two pieces (ends) 14½ inches long, rabbit the upper inside corner ¼ inch only ½ inch deep, to receive the ends of frames; cut two pieces (middle divisions) 14½ inches long, 5¾ inches wide, ⅞ inch plump thick; cut four pieces, (sides) ⅞ inch stuff, 2 inches wide by 21¼ long. Now, nail the lower side piece on one end (with thin sixes) flush with the bottom, then put in a form, 6⅜ inches wide and press the division against the form and nail, keeping the bottoms all flush; in the meantime put on the upper side piece, and place a movable strip of wood, gauged to 2¼ inches wide, between the side pieces while nailing, so as to leave the space for the glass always the same width. Then cut the glass with a gauge and it will always fit, press the glass down against the ends of the divisions and tack a light wooden stop against it, and your case is ready for the frames.

The top side-piece should be flush with the top of end-pieces, and the top of divisions should be ½ inch lower and on a plane with the rabbit in end-pieces. The stuff should be cut with circular saw and gauge, as it is cheaper and more accurate. There is a space of ¼ inch between the honey board and top of small frames, and the same space between frames when tiered up.

The case is to contain 24 small frames. The end-pieces of the firames are tight fitting to each other and also to the case. To make the ends, get a plank planed at the mill on both sides, 1⅛ inches thick, a little plump, so that when you put eight end-pieces side by side they will measure across them 14⅜ inches, and that will leave ⅛ inch side shake, for convenience in getting them out when filled; eight frames fill a space across the hive, (the frames run the same way as in the hive.) Now cut the plank into pieces 4 or 5 feet long, for convenience in handling, and set the gauge to a circular rip-saw ¼ inch from the saw, and rip the stuff off the edge of the plank ¼ × 1⅛ inches; then cut them 5¾ inches long and you have your small frame ends.

To make tops and bottoms have a plank planed 1¼ inches thick, and rip as before; cut the tops 6¾ inches long, and bottoms 5¾ long. The saw should be sharp and trued to cut smooth. Nail on the tops of frames in a form, so they will just slip in the case without touching; ⅛ inch end shake is sufficient. Nail through the top into the end and through the end into the bottom. Leave projections on each end of top-bar alike and nail the tops and bottoms in the middle of ends, leaving space on each side alike. When the frames are all put in there is a space ½ inch wide between the bottoms of every two frames and the same between the tops, making a splendid entrance for the bees, both before and after tiering up.

We think every working bee can make two or three trips per day more than she can in boxes, if the field is near, making one-third difference in the amount of surplus. Use ⅞-inch finishing nails, six to the frame, four in the top and two in the bottom. Stick a nice white piece of drone comb 2 × 3 inches in the the top of each frame, and when the honey yield commences take off the honey-board and put on a case of frames, and put a quilt on top of the case or, if the cover is high enough, the honey-board can be put on top of the case instead. The after management is about the same as with boxes, with these exceptions.

It will not be necessary to take away as much brood as with boxes, to prevent swarming, as the supers are better ventilated and the clusters are larger, being divided into but 3 apartments, while with boxes they are divided into twelve; and in the second place small frames can be tiered up sooner than boxes, as the entrance and ventilation to the upper tier is as good as it is to the lower tier.

If the yield of honey is good they can be tiered up as soon as the first case is filled with comb and honey, and before

they begin to seal much. The same plan should be adopted as with boxes to get the three rows started all together. If they work the strongest at one side or one end, reverse the case and get them to distribute their work, as it is so much easier to tier up a whole case than it is one or two rows. However, some bees will start one or two rows and leave the others severely alone. In that case, as soon as the one or two rows of frames are ready to tier up you will take the case off and set it up on end on a bench or chair, and take a thin table knife and run it from the bottom between the frames and the case, on all sides of the empty row, in order to loosen the propolis; then push the row all out together and put them in the tier up case and fill it out with new frames, then put it in the hive and put the partly filled case on top; then fold up some cloth and lay it down in the empty space, so the bees cannot occupy it, and if they have a good lot of food and the yield is good they will probably start the next case more even. We frequently get the three tier under before the first one is ready to come off.

These cases will weigh when filled from 50 to 55 lbs. each, after deducting the weight of the case. The frames sell with the honey and will weigh from one to two ounces each.

I see by the journals some advise taking out a frame as soon as it is finished and replacing by an empty one. It seems to me if they had ever made a ton of honey in that way they would think there should be some easier way to do it, as I can certainly tier up a dozen full cases while I could overhaul one set. That might be a good plan if the bees were allowed to swarm. There are one or two objections urged by beekeepers, when first looking them over. One is, it seems to them as if it was more work than with boxes; but our beekeepers here, after having a few years' experience in the make and use of them, say they think a man can run 100 stocks with frames with about the same labor that it takes to run 50 stocks with boxes. Another objection is, that as the bees cannot get in between the case and the frames, they say the moth worms will get in there, but having made a good deal of honey in that way, and having seen several tons in different seasons made in this county, I have yet to see the first worm in that place. Of course they are put on none but strong stocks. One wing of each queen is clipped and all swarms returned and managed the same as with box honey. As a result of all this, I advise all to get their supers made in the winter. Make all small frames and boxes that will be needed, put in the glass, stick in the combs, get them all ready to set in the hive, and set away in a safe place till wanted. Make at least super capacity enough to hold 100 lbs. for each full stock in winter quarters. If you have twenty such stocks make ten new hives—and no more—and make it your business to see to it, that those bees shall fill those supers, and on no account draw more brood than is sufficient to build up ten stocks for the season. If you have the supers all ready it will be half the battle towards getting them filled, as I believe a great deal of box honey is lost by not having the supers ready in season. Get the supers on several days before the yield of surplus commences. If the stocks are strong in bees, (crowded) it will do no harm to have them on a week or more before they use them. Better not put them on at all than to put them on a week late, as it will probably be labor in vain. I suppose I should qualify the amount of super room to suit the location. If the location is such that there is little or no surplus from locust trees, white and alsike clover, raspberry, and the tulip tree, and there is an abundance of basswood, the whole crop, nearly, coming from the latter source, and all delivered within a few days, my advice would be to use no surplus for comb honey, or if they were used they should be used over a two-story hive and the combs extracted from the upper story of the hive, as the time would be too short to make the wax comb necessary to hold the whole gathering, or daily yield, but if the yield of surplus commences, as with us, on locust, and runs down through the list, getting a slight sprinkling of basswood, and after a few days is followed with buckwheat, we think we can get nearly as many pounds of comb honey as we can extract from ten brood combs. My theory is that the young bees elaborate the wax as fast as needed and use but little more honey than they would to perfect the growth of their wings and other organs.

You will see that as soon as the bees are out of the small frames they are ready to ship. As the case is as cheap as any crate you would make to carry small frames and show the honey. The honey is made in the case, is waxed fast and will ship safely to any distance. We generally place a sheet of wrapping paper over the top of each case and fix them so they will not slip off from one another where they are piled three or four tiers high.

J. P. MOORE.

Binghamton, N. Y.

For the American Bee Journal.

"Eccentric."

Didn't friend "Argo" go for us right lively, though, in the February number of the AMERICAN BEE JOURNAL? Notwithstanding his vigorous assault we "still live," and if nothing serious occurs to frustrate our intentions or mar the even tenor of our way we shall continue to retain the name of "Eccentric?" Are we timid or cowardly? Methinks friend "Argo" would hardly have said that had he known us personally. But we had a good, hearty laugh when we had concluded the perusal of "Argo's" article, to think that he should skip clear over "us little folks" and read us last of all. Yet we could not help thinking of a private letter in Mr. A.'s own handwriting, stating that he valued our writings and prized them very highly. Ah! friend A., did you but know that "Eccentric" has appeared in these pages often, (over his own name, too,) very often before, had often had right lively scuffles with "Novice," "Gallup" and the other "big boys" who used to box one another's ears so soundly in these columns, you would never have called us cowardly. Many thanks, however, for saying our "article was good."

We begin to receive reports again of the destroying work of that fell "bee disease," and the indications are that large numbers of our little pets will, ere the return of April showers and balmy spring, "go where the woodbine twineth." Are these things always to continue to baffle our endeavors and thwart our designs? Is *successful* apiculture to forever remain a thing of the past only, to tantalize us with the sweet remembrance of those halcyon days of the long ago? It may be so, but we are too hopeful yet to indulge the thought. Even now, through the dark and somber clouds which veil the horizon of our vision do we catch a glimpse of the happy, prosperous future that awaits us if we with patience but persevere yet a little while. Success, complete and triumphant, can but be the reward of patient waiting, thorough investigation and tireless industry. It may not be out of place to state, in connection with the foregoing, that we are anxiously awaiting the arrival of a copy of "Money in the Apiary," which we see is advertised in another column of the good, old AMERICAN BEE JOURNAL. We are assured by the author that it contains instructions for wintering which will, if put in practice, enable us to bid defiance to that "bee disease" which has produced such fatal results during the reign of old Boreas and Jack Frost. Knowing Mr. Burch has no patent hive to sell, and that he has been a successful apiculturist, we have indulged the hope that his investigations may give us the key to success, and if this be the case we say "long may he wave."

We are glad to note that our bee conventions are making it lively for those dealers in a conglomeration of honey and glucose. We sincerely trust that they may persevere in the good work until these dealers shall abandon "the ways that are dark and the tricks that are vain" and engage in some more legitimate occupation.

When we shall have attained complete success in wintering our "little pets," and shall have secured a sure and reliable market for our honey, (which we can do by having it stored in small glass boxes,) then may we hope to make apiculture a pursuit at once "sure, safe and highly remunerative." That this may be fully realized in the near future is the earnest wish of "ECCENTRIC."

For the American Bee Journal.

Swarmers and Non-Swarmers.

In the issue of the A. B. J. for February, I observe a communication from N. Cameron. He tells us he has no faith in the non-swarming hive, "for we have known them to swarm when the hive was not half full of comb." Mr. Quinby tells us he took four hives of bees full of comb and placed each upon another empty hive; they each neglected to occupy the added room and sent out a swarm. Probably any bee in the exercise of common sense would have done the same. Bees will issue from any hive from want of acceptable room, from excessive heat, from the presence of enemies, or from lack of food.

Indeed in the home apiary it would be less objectionable to have enough swarms to sustain the working forces for the field.

My experience has been, that with acceptable room for the whole colony the whole season, secured from excessive heat from the sun, or want of ventilation, they will not swarm. A few facts, resulting from the use of the non-swarmer hive.

1. An apiary in non-swarmer hives will secure four times the amount of surplus, from the same field that would be secured by an apiary of swarmer hives, in the same field.

2. An apiary in swarmer hives will consume from two to four times the amount of honey gathered from their field, that would be consumed by the apiary of non-swarmers.

3. The surplus honey gathered by the swarmers costs from two to four times as

much by the pound as that gathered by the non-swarmers.

4. The care and trouble of an apiary of swarmers, is four times that of an apiary of non-swarmers.

5. An apiary of non-swarmers, is more durable than swarmers, non-swarmers often remaining efficient, thirty years and more, and swarmers rarely enduring one fourth of that time.

6. Swarmers reach periods of destruction, and waste in from five to ten years of almost the whole apiary, while non-swarmers may be efficient for a whole generation.

7. Non-swarmers give from one-fourth to three-fourths of the product of the field in surplus; the swarmer gives but from one-thirtieth to one-fourth of the product.

I have here presented a few statements that I believe to be a fair comparison of the operation of bees in the two classes of hives, swarmers and non-swarmers. If any of my friends have doubts of the correctness of either of the statements made, and wish for my reasons for adopting these views, I can give my reasons, or some of the reasons that have led me to adopt them.

I am aware that longer seasons for gathering honey at the south, and the shorter winter season for consumption of gathered stores may effect this question. But how, or how much, I am poorly prepared to judge. JASPER HAZEN.

Woodstock, Vt.

Report from the Pacific Slope.

I accidentally got hold of the November number of the AMERICAN BEE JOURNAL, and became quite interested in its perusal. Although I am but a novice in bee-keeping, yet I keep my eyes open, to see what others are doing in that line. I suppose that San Deigo county is as good a honey producing country as there is on the American continent, if not in the world, and that I am in the center of the best portion of the county. I notice in an article copied from the S. D. *World*, that the honey crop of this county for 1873, was 119,000 lbs., I know also, that the crop for 1874 was 475,000 lbs., an increase of 356,000 lbs. I know also that since that honey was produced, there has been a large importation of bees into the county from the northern part of this state. On the 15th day of March 1874, Mr. John Watson got the first load of bees here out of the 103 stands he started with from Sacramento. By the time he got them all here and straightened out ready for work, they were reduced by being smothered, to 75 colonies. He sold six and a half tons of honey in comb from them, and has now 160 swarms. He sold his honey at 20 cts. per lb.

One month earlier than that, or in Feb. 1874, Dr. Marshall started with 53 swarms of Italian bees, (Mr. W's were the black.) He increased to 203, and sold over $1200 worth of honey at from 14@16½cts. per lb here at home, and probably has from one to one and a half tons of honey now in the tops of his Harbison hives, as he was unable to procure section boxes for them to store it in.

Last spring Messrs Trask & Thompson, started with 19 swarms which they had got from the woods. They sold over $1,000 worth of honey, and a short time ago sold their apiary, numbering 110 colonies, and their bee-ranch for $2,000 more, to a Mr. Hicks from Chicago.

Mr. Crannell living three miles from me had, last spring, 40 swarms of black bees. He sold six tons of strained honey and has now 150 swarms of black bees. At his place, at the mouth of the San Bernardo river he had one swarm of Italian bees. From that one hive he saved 24 colonies. How many got away he knows not, but several of his neighbors got swarms of Italian bees that were astray, and as there were no others nearer than 10 or 12 miles, they think they must have come from his.

C. Paine, at Paway, had last spring three swarms in King hives; from the three he got 24 swarms, total 27.

I had one in the same kind of hive, my one increased to nine, others have done equally well.

Now with the same ratio of increase of the honey product of 1874 over 1873, 1875 ought to produce 1,421,000 lbs; but the probabilities are that it will exceed that by nearly one million lbs. Why? Because large numbers of people who only had a few colonies last year and sold no honey, are gathering up all they can get from the woods and rocks, and are going to make it a business to produce honey for market.

Two planing mills have been kept constantly running for months at their utmost capacity, cutting out Harbison and and Langstroth hive stuff; lumber for thousands of hives has been hauled out into the country without being cut, to be made up at home, and large quantities have been cut and shipped down from Sacramento and San Francisco.

Some of the statements made above may seem marvelous to your readers, but that they are all facts can be proven beyond cavil, by affidavits from all of the

above named persons, and numerous others here who are knowing to the facts.

From what I have seen of the workings of the different hives here, I prefer the Langstroth with some modifications which we put on here. For instance; We find that three section boxes do not give room enough for the bees to store honey in as fast as a strong swarm can gather it, so we put on six by deepening the lays and placing them two courses high.

Of honey producing flowers, we have the Manzanita (little apple) for the past month in full bloom, a sort of wild lilac just in bloom now, and a purple lilac also wild, just coming into blossom. By the time these are gone, the valleys will be covered with the blossoms of the Alfilari and burr clover, mixed with a small sort of fleur de luce on the plains, and willow and oak blossoms among the timber. We also have a kind of mountain sage very similar to the garden sage of your locality which comes on earlier than the white sage, and is almost if not equally as good as the white as a honey producer, after which comes the white sage, followed by the Sumac Fusica, and buckwheat, greasewood, with vast quantities of other flowers of which I do not know the names. Of course they work on the corn tops, fruit, pumpkin and melon blossoms. In fact there is an endless succession of flowers from Jan. 1st to Jan 1st again. Not one day in the year but that I could show you flowers if you were here.

W. J. WHITNEY.

Bernardo, San Diego Co., Cal.

For the American Bee Journal.

How I Built a Bee-House.

I selected a dry piece of ground where no water would stand, dug out a place 18x30, twenty inches deep, dug post-holes a foot deeper than the bottom of cellar, put in posts about six feet apart all around, reaching twenty inches above the top of the ground, and put sills on top of the posts; size of sill 6x16. I now had my foundation laid 18x30 feet. I put joist in 2x12 and 18 feet long, thus leaving a cellar underneath about forty inches deep. I now stud with 2x4 scantling, ten feet long, on the outside of the sill and inside also, nailing joist 1½x12 on top next to the top plate. I then sheet with inch lumber outside and inside, nailing at the same time 1x3 inch strips three feet long every two feet from floor to ceiling, from outside to inside stud, letting them project twenty inches into the room, forming supports for shelves all around the inside. Three rows of strips just make fair space for hives, it being just eight feet between ceilings. I now put a blind floor in both sets of joists, fill between the lower joists with sawdust, then lay floor on top, fill the outside wall, which has sixteen inches of space with dry sawdust, also about fifteen inches on top. Roof it the same as any other building, and put in two windows and one door. I cut a board the size of the windows and put it in when I wish to darken or keep out frost, also double doors. I built a chimney in the end between the door and and window, letting it come down into the room. It forms a ventilator, and I use a stove in the spring to warm up weak stocks, after the bees are moved out. I always keep several thicknesses of cotton over the chimney-hole, to keep in heat, and allow the damp to escape. I bank the cellar all around the building so that no frost gets in, and have an opening or hatchway two feet square through the lower floor to let the foul air or poisonous gas settle into the cellar.

I have wintered three years in this house and never had any losses in wintering. It is no trouble to winter in it when the thermometer goes 25° below zero and continues cold a long time. The inside temperature never varies more than one or two degrees, standing at about 40° or 42°. I frequently go in and can scarcely hear a sound from one hundred pure Italian swarms, they are so quiet.

I weigh every swarm when I put them in in the fall, and also when putting them out in the spring, and they consumed in the winter of 1872-3 six pounds and two ounces of honey per hive; in 1873-4 five pounds and three ounces of honey per hive, or about one pound per month. Thus far this year they have been doing well.

Now, a word about extractors. I see by your February number that some prefer the Peabody, or a revolving can machine, to one of the Root style. I have used a Peabody that cost me about $20, counting express charges, &c., for years. Last season I got one of Root's machines and it ran so easy that the little boys in the village would come and help extract for amusement. One day a small boy extracted over two barrels of honey. I took out and put in the combs for him. I want no more revolving can machines. If the Root machine is not strong enough to suit you, put a steel wire inside the tin braces and put in a ⅜-inch steel rod or mandrel, as you call it, and you can sling out any honey that can be removed.

I am making and selling at cost extractors of the Root style, only I strengthen some weak places. I could use a Root

machine for years, but I find that some not accustomed to extracting require a stronger inside frame when extracting very heavy combs. In conclusion allow me to say that I will furnish bee-hives containing twelve frames of improved style, division-board, bee-feeder, (latest,) entrance blocks and everything complete, painted three coats, ready to put in your bees, for $1.50 each. I will do this in order to encourage bee-keeping. There is no patent on it that you will be charged for and those who wish to do so can get one for a sample and make their own. I also will give any person one hive free who will get five new subscribers here in Canada for the AMERICAN BEE JOURNAL for 1875, they sending me the editor's certificate for the same, those already sent in not to count. D. A. JONES.

Tecumseth, Ontario, Canada.

For the American Bee Journal.

Kentucky Bee-Keepers' Meeting.

At a meeting of the bee-keepers of Southern Kentucky, at the residence of Dr. N. P. Allen, near Smith's Grove Station, Warren county, Dec. 30, 1874, Prof. C. M. Wheeler was called to the chair and R. A. Alexander appointed Secretary *pro tem.*

Prof. Wheeler stated that the object of the meeting was to organize a Bee-Keepers' Society for the promotion of bee culture.

The following persons gave their names as members of this society:

Rowlet's Station.—Robert S. Munford.

Smith's Grove.—J. H. Wallace, H. W. Sanders, Dr. N. P. Allen, David Kirby, Wm. G. Allen, J. T. Allen, L. P. Smith, Mrs. M. J. Wolf, R. A. Alexander, Mrs. Kate E. Allen, Mrs. Amanda Allen, Mrs. Lizzie Alexander, J. C. Ellis, Charlie N. Allen, Mrs. Julia Wheeler, Mrs. Mollie Allen, Mrs. Mattie Sanders.

Caverna —Elmore Winn.

Bowling Green.—Eli Howel.

Glasgow Junction.—P. P. Colier, Prof. C. M. Wheeler, David Lock.

Edgefield, Tenn.—H. T. Arnold.

The society then proceeded to elect officers for the ensuing year, as follows: Dr. N. P. Allen, President; H. W. Sanders, Secretary; R. A. Alexander, Assistant Secretary; W. W. Wright, Treasurer. The following Vice Presidents were elected: L. P. Smith, Warren county; S. S. Dunall, Barren county; James Reed, Allen county; R. S. Mumford, Hart county; James Johnson, Todd county; Moses Gath, Butler county; J. H. Ritchy, Cumberland county, James Harlin, Monroe county; J. F. Ray, Metcalfe county; Thos. Sydnor, Logan county; James Richards, Hardin county.

The President-elect on taking the chair thanked the Society for the honor conferred on him.

The following committees were then appointed:

Committee on constitution and by-laws —Prof. C. M. Wheeler, L. P. Smith, R. A. Alexander.

Committee on questions for discussion at evening session—R. S. Mumford, P. P. Colier, W. W. Wright.

While the committees were out the President delivered an able and appropriate address on bee-keeping.

The committee on constitution and by-laws presented their report which was accepted and the committee discharged.

The Secretary read the constitution and by-laws and on motion they were unanimously adopted.

On motion the wife of each member was declared entitled to membership.

The Society then adjourned, to meet at 1 o'clock P. M.

Afternoon Session.

A communicatlon was received by the President from Mr. Frank Benton, Edgfield Junction, Tenn., on the advancement of bee-culture. The communication was read by the Secretary and on motion the thanks of the Society were tendered Mr. Benton with a request for its publication. Mr. Benton was on motion made an honorary member of the Society.

The President stated that he had received a communication from Mr. James H. Ritchy, of Burksville, Ky., regretting his inability to attend this meeting. Mr. Ritchy stated that his bees continued to gather honey rapidly up to October 10th.

The committee on questions for debate presented the following which were accepted:

1st. What are the advantages of the moveable frame hive over the old box hive?

2d. Is the Italian bee superior to the native or black bee?

3d. How can we manage bees so as to secure the greatest yield of honey?

4th. Is honey, taken before it is capped over by the bees, pure honey?

5th. Can bees be tamed by handling, or can they be educated so as to know their owner?

The first question was then taken up. Mr. Alexander said that the moveable frame hive possessed many advantages over the old box hive. First, we can ascertain at any time the exact condition of

our bees. If they are weak we can by exchanging a card of empty comb from the weak colony for a card of comb with capped brood in it from a strong colony strengthen them in winter. Or if queenless, we can furnish a queen, or give them eggs from which they can raise a queen. Second, if the moths are about to destroy our bees can remove every frame—comb, bees and all—from the hive and destroy the last moth; and if we find them short of stores we can feed them and give them a card of sealed honey from a rich hive, and thereby save our bees from death. We can also Italianize our bees and cultivate a much better bee for honey gathering. It gives us the advantages of the honey extractor, enabling us to extract the honey and return the comb to be filled again, and we can realize a much larger yield of surplus honey.

Mr. Mumford said the moveable frame hive also enabled us to clean our hives of all accumulations of wax and other matter, by removing the combs and bees into a clean hive, and we could make any repairs the hive might need. We could divide our bees and insure increase of stocks without danger of loss by swarms decamping, as was often the case with box hives; and that we could improve our bees in size, and in many respects make them more valuable.

The President said that during rich yields of honey the bees would store it in the brood nest, and by the use of the movable frame we could extract it and make our colonies much stronger in numbers; and that we could insert empty cards of comb in the center of broods, enlarging the brood nest and raising double the amount of bees that would be raised in the box hive. That with the frame hive we had as much control of our bees as we have of our domestic animals.

The second question was then taken up. Mr. Mumford said that the Italian bee was larger, hardier and more prolific than the black bee, and a much better honey gatherer. He had seen them gathering honey from the red clover and from the sapling clover, and that they would gathey honey when the black bees were idle; would go farther for it, would defend themselves against the moth better, and that they were more pleasant to handle. He said he had a large gray bee that could gather honey from red clover.

The President said he had never seen the Italian bee gather honey from the red clover except when the blossom was short from the effects of drouth.

Mr. Smith asked what flowers the Italian bees gathered honey from that black bees did not?

Mr. Mumford—"From the red clover and various other flowers."

Mr. Smith—"I understood the gentleman to say he had a large black bee that gathered honey from red clover."

Mr. Mumford—"I said I had a large gray bee that gathered honey from red clover. It is an improved variety of the common bee, as lgrge as the Italian."

Mr. Smith said he had never seen any bee but the bumble bee gathering honey from the red clover, unless he mistook the Italian for the bumble bee. [Laughter.]

Mr. Alexander said in his experience with the Italian bee they were much superior to the black bee as honey gatherers.

The President said that the Italian bee was aeknowledged by the great mass of apiarians to be much superior to the black bee and in no respect inferior.

The third question was then taken up. The President said by feeding early and getting the bees strong by the time the honey harvest opened; then give them empty comb in top of hive and as fast as it is filled and before it is capped over throw it out with the extractor. By that management he had the past season taken from one hive 423¾ pounds of honey.

The fourth question then came up for discussion. Mr. Mumford thought it was not perfect honey until capped over by the bees.

Prof. Wheeler asked if the fact that honey was taken before it was capped was not the cause of the difference in the flavor of honey.

Mr. W. G. Allen said he got some honey from the President of this Society last season that had been extracted before it was capped over. It was so thin he feared it would sour; he put it in his cellar and now it was candied so solid that he could slice it like butter, and richer, better honey he never saw.

The President said the difference in color and flavor of honey was on account of the different sources from which it was gathered; that honey taken before it is capped over by the bees is pure honey, but was not thick and rich like capped honey until all the moisture it contained was evaporated, which could be done by heating it or allowing the vessels containing it to remain open, so that moisture could escape.

The fifth question was then taken up. Mr. Arnold said he found his bees tamed by handling; that when he visited them often they seemed less spiteful.

The President said there was more in our getting used to the bees than in their getting used to us.

The Southern Kentucky Bee-Keepers' Society then adjourned, to meet at the residence of Mr. B. A. Alexander, near Smith's Grove, Warren county, on the third Wednesday in May.

W. H. SANDERS, Sec.

Notes AND Queries

I found one of my best swarms dead this morning; it was smothered or frozen. It was a box hive and contained about 75 lbs. of honey; the combs were like cakes of ice. The weather is very cold and I fear I shall loose more of them. The JOURNALS came to hand and I find them very interesting.

Denver, Ind. AARON LEWIS.

It is strange that bee-keepers are so long in understanding that frozen honey is no better ice for bees to winter on, than frozen water would be. We have seen many colonies in just the state your bees were in —hives full of sealed honey with no space empty for the bees to cluster. The very first cold weather, all the bees that come in contact with the sealed honey die, and thus with every cold day the cluster is diminished until there are not bees enough to keep up any warmth. Even when protected, bees in this situation are not safe from freezing. We repeat what we have often said: "More bees die every winter in Iowa from too much honey, than from the want of it.

I have seen it stated that the Italian bees protect their combs from the moth much better than the common bees do; and that when there is no bee disease prevailing the Italian workers are much longer lived than black ones. Please inform me whether these two points in their favor are generally conceded by those who have tried them.

ALLEN WEATHERBY.

We are sure that no one who has kept both Italians and black bees, will dispute that the Italians protect their combs from the moth much better than the black bees do. We have never seen an Italian colony injured by the moth while it was in even tolerable condition, while we have seen many black ones ruined by worms. We doubt if Italian workers are any longer lived than black workers, we think they are quite as long, and do more work while they do live; and if left queenless by accident, an Italian stock will maintain itself longer than a black stock can in like circumstances.

Belleville, Canada. Do you think the tulip tree would grow as far north as this place. Apples, pears, plums and all kinds of fruit grow very well, white clover is indigenous, basswood is the ordinary fruit wood, with maple and beech. Buckwheat is an abundant crop generally; wild raspberry and all small fruits grow well. The tulip tree is a new idea, to me, and I would like to try one to see if it can be made to grow. Is it more productive of honey than basswood?

L. WALLBRIDGE.

We would like to see the tulip tree tried in your section of country, and are quite sure it will do well. Here they grow fast and, so far, are handy. It is not more productive of honey than the basswood, but the honey is of very different flavor, and we think it remains in bloom longer. If any reader in Canada has tried the tulip tree, let us hear a report as to growth, even if it has not yet bloomed with him.

I am a beginner, and started last spring with an Italian and a black swarm. I got from these one black swarm and nine good hybrid swarms, and I received from all, over 200 lbs. of honey, which sold mostly at 20 cents per lb. I have now about 30 good combs in Langstroth frames. We had a terrible drouth here, I succeeded very well in every operation except introducing queens. Late in the season I ordered two Italian queens from Mr. Dadant, put them in, following Mr. Hamlin's plan; both died. From eggs the bees raised a queen, but it is doubtful whether she got fertilized or not. Now instead of having two more Italian colonies I lost the queenless one. Now, I intend to move to another place where there are no shade trees at all, so I would like to know what to plant to have shade by the latter part of May. How will hops do? and how to arrange it, or if it is better to erect a shed? I shall have to manage from 8 to 12 hives. Also, which is the best way to protect combs not in use in winter, as well as in summer?

GUSTAV ILISCH.

Hickman, Ky.

You are unfortunate in getting queens so late, but your experience will help you next season. Try some other way to introduce; there is no need of loosing queens when putting them in.

In regard to shade for your hives, another season, we would recommend sunflowers planted like a hedge, south and east of them, as more sure to afford shade the first year. Grapes or hops, if planted this year, will give them shade next. We do not recommend a shed; if your hives have deep caps it is not necessary to have any other protection, but we like shade for bee hives, and believe on the whole it is best.

Riverton, Iowa. We are having very severe weather here. Part of my bees are buried, and a part surrounded by straw. I am afraid I shall loose many, because my stocks were weak in the fall. On the last part of September and first part of October, when it was warm, my bees were busy, but I noticed hundreds of fall flowers in a

stupor. They could crawl but not fly. I can give no cause for it. I noticed it at mid-day, when the thermometer stood at 80, and on moonlight nights.

E. WELLINGTON.

What blossoms were the bees on? Can any bee-keeper account for this, or has any one noticed the same thing?

I think it would be interesting to many readers of the JOURNAL, and particularly so to me, if you will answer the following:

Is Florida a good State for the honey bee?

If so, what localities are considered best?

At what season do bees swarm there?

What are its honey resources?

Can you give the address of one of its intelligent apiarians? J. B. H.

Florida is a good State for bees. Reports from bee-keepers there, who are giving attention to the business, are very favorable.

Any location where man can live is good—none have been tried long enough to decide comparative merits.

Bees swarm from the middle of March to May.

Honey resources are wild flowers, tulip tree magnolia, various wild shrubs, orange blossoms, etc.

Mrs. Charlotte Atkinson, Live Oak, Fla.

I have my bees in good comfortable winter quarters, a good bee parlor partitioned off foom the main cellar of the dwelling house where they are apparently enjoying themselves cherily, with the low humming song of the busy bee, wholly unconscious of the rigors of the elements outside, which are consigning millions of their less fortunate fellows to the cold embraces of eternal death. P. MILLER.

We congratulate all who have their bees housed properly, this terrible winter. We shall hear of many losses when spring comes from those who are wintering on summer stands, without protection.

When can I transfer my four hives, now in common, rough boxes, into movable frame hives. I know that they have a goodly store of honey for the winter, and in this climate the bees go out for a little every day, excepting the few days in the year when it is very cold. At present we have still roses, sweet olives, scented violets, &c. in bloom in the open garden. I keep my hives under a large plum tree; they have no shed or other shelter. I know there are some worms in the hives, how can I get them out? When is the time to buy Italian queens? Should I need one for each hive? We are doing very well; but the water came and drowned all our little place and washed away the labor of years.

Hermitage Landing, La. L. LAWSON.

We have great sympathy with them who have seen the labors of years destroyed by floods or insects. We send you the JOURNAL, being sure that you will find in it needful instruction. You have a good place to keep bees; they need no other shelter than the plum tree. You will find good methods given in the JOURNAL by which to transfer your bees into movable comb hives and after you do that, you can aid the bees to keep clear of worms. We think May or June would be your best time to put in Italian queens,—at the North almost any time from May to November will do. We hope to hear of your success.

Voices from among the Hives.

D. S. MCCALLUM, Hornellsville, N. Y., writes:—"My bees have done very well this year. I had 60 swarms in the spring and some of them rather poor. I increased to 100 by natural swarming, and they made 5,100 lbs. of box honey, including that not capped. I put them into winter quarters in Nov., and they appear to be doing well."

B. F. H., Livingston, Ala., writes:—"There are plenty of bees in this section, but they are kept on the old plan—allowed to care for themselves; and if an annual "robbery" yields 15 to 20 lbs. of honey, the "robber" thinks he is doing well. My first task will be to try transferring to a movable frame hive. Shall undertake it with fear and trembling, and numerous stings, I guess."

J. W. DUNN, Corpus Christi, Texas, writes:—"Last March I got a hive of Italian bees from S. W. Cole; they were 13 days on the road; came out in good order, increased to five and lost one (run-away); the five I have are doing well, plenty of honey and brood. I shall not run my bees for honey, as there is a demand for all the bees I can raise at $30 per hive. I use single-story Langstroth size."

F. C., Bethlehem, Iowa, writes:—"Bees have done well, when attended to; mine average 80 lbs. to the swarm, and an increase of ½ during linn. I extracted 1,200 lbs. in 84 days from 20 stands, in hives containing 20 frames, one story, "a la Gallup." I am fully convinced the majority are upon their right track on wintering. Put your bees away early, or at least do not let their combs become frozen or damp. Keep them dry and cool. If your depository is dark, dry and frost proof and the bees put in proper shape with regard to ventilation, according to size of swarm, you need not fear bee diseases."

MRS. M. E. CHANDLER, New London, Minn., writes: "There are no Italian bees nearer than 3 miles of us, yet out of thirteen queens fertilized last summer, four produced hybrids; two of these swarms were very light colored two banded bees; the other two were a mixture of black and one banded hybrids. A friend of ours also had a swarm of hybrids, when there were no Italians nearer than 6 miles. Under these circumstances I think it would be well for Italian queen breeders to be careful how they warrant their queens, when there are black bees within five or six miles of them, that is, if black drones will go as far from home as the Italian drones."

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American Bee Journal.

W. F. CLARKE, Mrs. E. S. TUPPER, } EDITORS.

Seasonable Hints.

The eggs of a queen are developed by heat, just as are the eggs of a fowl. Bee keepers are apt to forget this, in the spring, and do not economize the heat of the hive. We have seen hives out of doors in this month of changeable weather—with all the holes or top open, and the entrance as large as it ought to be in summer. Bees need no ventilation now. Every crevice should be closed and the quilts kept on the frames, that none of the heat generated by the cluster escape. If there are but few bees in the hive, we always remove all comb except as much as the bees can cover. For instance if the bees can only protect the brood, deposited in two combs, take out all the others. As the circle of brood grows larger and the weather warmer, add one comb at a time until the hive is full. In this way we succeed much better than we did when we left the hives full of comb. We have always fed colonies that needed it inside the hive, on top of the frames or in one side—and have no experience in feeding all together in the open air; but Mr. Dale, one of our most successful Iowa bee-keepers, tells us, that he has practiced feeding outside the hives with good results. We inquired if he did not in that way feed his neighbor's bees, with his own, and he gave us his method of preventing this, as follows:

"I put the sugar syrup into my shallow feeders, near the hive, quite late in the afternoon, after all is quiet about the hives. At that time my neighbor's bees are at home and will not be attracted by the food. To make my own bees find it—I go to the hives, with a dipper of the syrup and a spoon and throw a little into the entrance of the hive. The bees rush out, as bee-keepers know they will do, in such cases, go to the troughs and work busily until all is taken up. I give them no more then they can carry in; if any remains over, I take it away."

Mr. Dale says it is fun to see how busily they work at it, and how much good it seems to do them. We shall try this method in our own apiary as soon as spring comes. We need not say that it should not be tried when there is any chill in the air, and would also advise that the syrup should be quite warm when put in the troughs. Weak colonies will be the better for feeding inside the hive, in addition to this.

Be on your guard against robbery. Prevention of this is easier than cure. See that every hive has a queen—have all entrances closed, and there is little danger. If you see that robbers are attacking a hive, take it at once to the cellar until all bees are in the hives, then take it out and examine it. If it is queenless, give it a frame of brood from another hive, if you have no queen for it; but if it is only weak, protect it, and it will take care of itself.

T.

Experiments with Honey.

A correspondent of the *Scientific American* has been experimenting to prevent honey candying, and states his experience as follows: During the past autumn, I have experimented as follows: I put up six 1 lb cans of beautiful linden honey, being careful to make it into one homogeneous mass by stirring. It was thrown from the combs by an extractor on July 20, and put into cans on Aug. 1. The cans were placed respectively as follows:—one in a dark, dry

cellar, one each under shades of red, yellow, green and blue glass, and the sixth can in full light. On Nov. 8, the honey in the cellar candied to a white. Nov. 22 to Dec. 10, honey under colored shades candied, first in the red, next in the yellow, green and blue; while the honey in full light remained transparent until January, when it soon candied after exposure to intensely cold weather. From my experience an equal temperature would preserve certain kinds of honey, while other kinds would candy under almost any circumstances.

I think that candied honey, instead of being looked upon with disfavor, should be recognized as evidently pure. I hope, however, that the above experiments will lead others to follow up the light theory with beneficial results.

Honey Locust for Hedging.

In reply to a question respecting the honey locust for hedging the *Western Rural* says:

The honey locust, *Gleditschia triacanthus*, is a tall, handsome tree with a spreading top. So far as hardiness is concerned the honey locust is entirely so, far north of the line of hardiness for the Osage Orange. It is not a hedge plant, if by this you mean a plant that may easily be kept within the bounds of an ordinary hedge, but as forming a barrier to stock, it is cited by practical Western horticulturists, among others Mr. A. R. Whitney, of Lee Co., as being among the very best. It is not liable to disease or insect depredations to any considerable extent.

It would take five or six years from the time of transplanting into the hedge-row to make a barrier against cattle, and unless good care was given it, longer.

Plant the seed by all means in seed beds as is practiced with Osage Orange and transplant at one year old, cutting the plant back to a height of six inches when dug for putting into the hedge-row.

Before the Legislature.

The Michigan Bee-Keepers' Association is before the Legislature of Michigan, with the following memorial:

To the Honorable, the Legislature of the State of Michigan: The Michigan Bee-Keepers' Association would respectfully represent that they have been organized and in successful operation for the past 7 years, and its proceedings have been published throughout the States and Europe with great credit to the organization and the State of Michigan, and that it has in view the building up, out of comparatively nothing, one of the greatest industries of the State, thereby effecting the perfect crossing and fertilization of our vegetables, grains and fruits, preventing their deterioration and greatly increasing their certainty and productiveness, collecting only the surplus pollen which would fall to the ground and the excessive nectar which otherwise would evaporate into the air, storing it in frames and boxes for use as food, ultimately saving millions of dollars worth of waste product. Your memorialists, therefore ask an appropriation of one thousand dollars to enable them to make an exhibition of Michigan flowers and honey at the Centennial Exposition at Philadelphia in 1876, believing such exhibition would redound to the credit and honor of the State. Said honey to be furnished gratuitously by the members of the Association and finally sold and the proceeds used for printing our annual discussions for gratuitous distribution.

H. E. Bidwell, Pres't.
Herbert A. Burch, Sec'y.
South Haven, Mich., Jan. 20, 1875.

A Chinese Bee.—The Apicultural section of the Entomological Society at its annual meeting in Paris, August, 1874, made many interesting statements. M. Durand Saint-Armand, a government officer in Cochin China, states that that country possesses a bee twice the size of ours, which consequently ought to have a proboscis long enough to extract the honey from red clover, which is known to be very abundant. This bee is found in great numbers all along the coast, in a wild state, in hollow trees, and the natives hunt them for their wax. The extensive forests of this country are leased for the product of wax, which is to be sold to the Chinese. M. Durand Saint-Armand has acquired a certain knowledge of bee culture so to be able, if possible, to domesticate the bee and send them to France. Would it not be well for our bee keepers on the Pacific to investigate this? It has a promising look.—*Country Gentleman.*

☞ One of the last Acts of the late Congress was to double the rates of postage on books, pamphlets and general merchandise. The following from the new law will be interesting to publishers:

That section 8 of the Act approved June 23d, 1874, making appropriations for the service of the Post Office Department for the year ending June 30th, 1875, and for other purposes. "Be and the same is hereby amended as follows: Insert the word "ounce" in lieu of the words "two ounces." Approved March 2d, 1875.

The second semi-annual session of the Michigan Bee-Keeper's Association will be held in Kalamazoo, Mich, May 6th 1875. We earnestly request a full attendance of the members of the association, as matters of vital importance to all engaged in apistical pursuits, will be presented for their consideration. We also extend a cordial invitation to all persons, interested in bee-culture to be present. Remember the time and place—Kalamazoo, May 6th, 1875.

HERBERT A. BURCH Sec'y.
ap12m South Haven, Mich.

Notes and Queries

Are queens wings clipped to prevent them swarming? or to prevent them leaving hives at other times. If queens do not leave at other times, cannot you give some other method that will accomplish this result?

Would you advise attempting to increase from two strong pure Italian stocks to six this season, the object being to increase with honey enough to winter on. Would it be safe to increase further?

CHAS. E. SELKIRK.

Some queens wings are clipped to prevent swarming, but more are marked, we think, to be sure of their being the same one bought. It does not prevent their leaving the hive. They do not seem to realize that they cannot fly and are more liable to be lost if clipped, than if they can manage themselves naturally. We do not clip a queen for any purpose.

We are sure you will find no trouble in increasing from two good colonies to six. To do it surely, however, you would have to feed liberally in the spring and perhaps again during dry weather in August.

Will you tell us if there is any danger of bringing "foul brood" to our aparies, by purchasing queens from Europe as Mr. Bingham and others assert. T.

There may be danger, if the queen is brought from some parts of Europe, but we think foul brood has never existed in Italy. We have never seen a case of this disease in all our experience. All the queens we have received from Europe have been healthy, if alive.

I sent my last letter for publication in the JOURNAL. I think where persons impose on us and take a high price for hybrid queens, they should be exposed, that others may not loose money in the same way.

G. H. WILLIAMS.

There are two sides, to this question. This JOURNAL has not taken upon itself to pass judgment upon others; believing that its columns may be better filled. If we give place to complaints, we must in justice to the other side give explanation, and the door once opened to complaints and excuses, however just, much valuable matter would necessarily be excluded to make room for them.

There is still another reason. The law gives us no right to publish *facts even*, if their tendency is, to injure the business of another. If a suit for libel be brought against us—it would not be sufficient for us to prove that what we had published was the truth. In law "the greater the truth, the greater the libel." If we have ourselves been injured by any one, we have redress in a suit for damages. By no law, human or divine, have *we* been made a judge of the business, even of those who advertize with us. We admit nothing to our columns, known to partake of the nature of a humbug. Though we may not believe all that our advertizers say about their patents—hives or other articles—we learned long ago that all do not think alike on these matters. Others may value what we do not think valuable. We try to give rules and records of experience, and let all judge for themselves. Every one has a right as well as a desire, in bee-keeping, as in other matters, to "prove all things, hold fast that which is good."

Please describe Melliot clover. Is it good for anything but bees?

JOHN H. GUENTHER.

Melliot is good for nothing but honey, unless it may pay to plough it under for mulching. It is the "sweet clover" found in many flower gardens; grows three feet high or more, branching out at the bottom, and remains in bloom nearly all summer.

Is it best to give bees flight before moving them ten miles. They are yet in the cave.

NEWSOM BROS.

It is alwas best to give them a flight before moving them any distance, after taking them from any winter repository.

Having a friend going to Europe I intend to send for some bees. Can you tell me how many Mr. Dadant brought home alive on his second trip to Europe? J. C. B.

Mr. Dadant did not go to Italy the second time as he advertized and expected to do. We are not informed, why he changed his plans. We sent him an empty comb to take with him by his request, and until July, thought he had gone. No doubt unforseen occurances prevented. Last season he imported queens direct but did not go himself.

What is the best way to Spring weak colonies? Is wild rice a good honey plant? What time does it blossom, and how long does it stay in bloom? A. ASPINWALL.

You will find this question partially answered in Seasonable Hints. Be sure your weak colony has a good queen, keep the hive closed, leave no more comb than the few bees can cover—and feed them regularly, all the syrup they will use. We have seen a pint of bees in March with a good queen and two combs changed to a large colony having twelve combs well filled with brood by last of May. Will some one who knows—tell us about wild rice?

Is sugar syrup as good as honey to feed bees; and if so, what grade of sugar is best.?
ELLA.

We prefer sugar to honey, even at the same price. Have always used Coffee A., but Mr. Dale informs us, that a good grade of New Orleans sugar goes farther, and he prefers it, having fed it in quantities with best results.

Voices from among the Hives.

JOHN H. GUENTHER, Theresa, Wis., writes:—"Finding my bees uneasy I gave them water and by this means soon resorted the hives to their quiet condition."

A. SALISBURY, whose directions for wintering bees were given last fall in the JOURNAL, writes:—Out of near 200 swarms of bees I shall not loose one this winter. 56 are on their summer stands, the balance indoors.

B. Y. THORNTON, Knightstown, Ind., writes:—I have received "Money in the Apiary," advertised in the A. B. JOURNAL, and must say it is the poorest thing (the nearest nothing at all) that I ever saw or heard of on bee-culture, or any other subject. Two whole pages devoted to managing an apiary for profit in that miserable little 2x3 pamphlet, the balance all taken from the A. B. JOURNAL. They are certainly *all* cheek to ask 25 cents for such a miserable little advertisement."

JOHN J. WILLIAMS, Bachmanton, Ohio, writes:—"I wish to ask a question. My bees commenced dying last fall, in the warm spell after severe cold for several weeks. I found many in the bottom of the hive and in the cells dead, but puffed up almost as large as a queen. If I squeeze them they will pop, and the perfume is almost unbearable. On the 22d, of Feb. it was a bright day and the bees had a fly and the snow looked like as though it had red paint thrown on it. This is the first fly for 9 weeks. I winter on the summer stands. In the hives that died there were no brood but plenty of honey. I use Davidson's Patent American Hive, made of pine wood. I don't know if diet has anything to do with it. I hope some one will be able to give me some light on it."

J. P. MOORE, Binghamton, N. Y., writes:—"Bees are wintering finely here, though the winter has been severe. I am using saw-dust pillows this winter, over my bees, and like them much. They are made of heavy old wollen carpet with 2 inches of sawdust for in-doors, and 4 inches for out-doors; use very coarse hemlock sawdust, from a log saw, thoroughly kiln dried. I raise up the pillow at any time and put my hand over the cluster, and find it warm and dry; my out-doors hives are packed with about 6 inches of buckwheat chaff, underneath and on all sides. Some stocks have died in the neighborhood, that were left out in some hives, without any preparation for winter. I think they might have been saved if a portion of their honey had been taken away and a quilt, a straw mat, or a sawdust pillow had been put over them, and the cap filled with straw."

J. D. M., Richland, Wisconsin writes:—"I have 60 swarms in the cellar, some in the American hive. I built a house here about 20 years ago and got my bees from a tree close to the house and saved them when they swarmed."

GEO. PERRY, Peru, Ill., writes:—"I have nine swarms in the cellar, put in the 2nd of Jan. and thus far they seem to be doing well; three of them got uneasy and I gave them a little water; they have quieted down. I am in hopes to set the little prisoners free in a few days."

MILLER WILSON, Meredith, Pa., writes: "My repository worked like a charm this winter. See page 20, Jan. 1874. Potatoes would not have frozen had they been in it. But fully one half of the potatoes is frozen in this country.

Although the weather has been dry I have heard of no bees dying in this vicinity yet."

J. W. MCKINNEY, Camago, Ill., writes: "The same thing spoken of by C. Wellington, in March number of "A. B. J.." was noticed by me last Sept. The bees were on the bloom of the Spanishneedle. The under part of their body was usually daubed with a resinous, sticky, aromatic exudation from the bloom. The bees appeared to be stupified as if badly intoxicated.

I noticed some in the same condition about the mouth of the hives, daubed with this Spanishneedle gummy pollen.

H. E, CURRY, Cincinnati, O., writes:—"I have examined our hives and find them all in good order; some of them have brood in three sheets, they got natural pollen one day, but we have had cold weather since and I am afraid it will be killed. I never had our bees work on flour, as they did this year; they were as crazy after it as they are at robbing in August. We winter out of doors with mats on, and on examination we did not find the slightest trace of mould. The thermometer stood 12 degrees below one day but I need not tell you we have had a very severe winter."

CHAS. SONNE, Sigel, Ill., writes:—"The winter here in Central Illinois was probably as hard as almost anywhere. I wintered on summer stands, 42 hives. 19 of these were in hives which had straw packing on top, on the back and in front. The sides are double inch boards with thick wool paper in between. Of these 8 died, although they had plenty of honey and plenty of bees. The other 23 were in hives which had straw packing as above, but had also straw packing of 4 inches on both sides. Of these none died. Query: Does this show that warm packing saves bees?"

MOSES BAILEY, Wintersett, Iowa, writes:—"Last May I had 12 colonies of bees with queens and 2 without. I increased them to 74 colonies, took 1000 lbs. of honey (ext.) and most of them had sufficient stores left to winter well, but on account of several queens mismating, &c-, (brood hybrids,) I reduced the number down to 42 colonies by sale and uniting colonies, the 42 were set in my cellar Dec. 16th, 1874, and a chance one shows a slight indication of dysentery for a few weeks past. Some colonies appeared thirsty and I gave water two or three times. Some took it eagerly. Shall set them out in 3 or 4 weeks if the weather warms up sufficient to do so."

Correspondence.

For the American Bee Journal.

A Word of Cheer for the Workers.

AN ADDRESS BY FRANK BENTON, OF EDGEFIELD JUNCTION, TENN., BEFORE THE SOUTHERN KENTUCKY BEE-KEEPERS' ASSOCIATION, DEC. 31st. 1874.

It is gratifying to know that, in a time when the country is suffering from a great financial depression, a body of her intelligent citizens will gather to unite in the discussion and dissemination of knowledge concerning a branch of economy, which, with proper attention would add no inconsiderable amount to the wealth of the country. The eight millions of dollars annually produced in the United States through the agency of that industrious insect, the honey bee, is almost a clear gain to the country since their labor saves what would otherwise go to waste, a fact which has been frequently expressed by the sentence: "They work for nothing and board themselves." When we consider that the country could, to say the least, support three times as many bees as are now within her limits, (and that too without decreasing the average yield per hive,) and thus place the annual return from this branch of rural economy at twenty-four millions of dollars, we see the importance of such assemblages as this for the promulgation of all practical knowledge of the habits and best method of managing these sweet creatures, and the "Goddess of Liberty" may well afford to smile at the *honeyed* words dropped by her hardy sons of toil.

There have been three steps in Apiculture which, when compared with the rest of its progress might be termed mighty strides toward perfection: The introduction of the movable-comb hive was the first of these. It is well recognized among progressive bee-keepers that this step has completely revolutionized the keeping of bees. By the use of movable-comb hives the bee-keeper can ascertain at once the exact condition of the interior of every hive and is thus enabled to remedy all accidents which happen in each little community, (for accidents do happen to bees as well as to human beings); he can secure larger yields of honey and in a more saleable form, while rapidly increasing the number of his colonies in a new and safer manner than by the old method; in short, he can regulate the labor of his bees as certainly as he can those of any other domestic animals.

The second stride in apiarian pursuits was the introduction of the beautiful golden-banded Italian bees. Though discovered among the Alps mountains early in the present century they were not brought to this country until 1860, and this date marks the commencement of an important period in the history of bee-culture in the United States, an era of progress. The peaceful disposition of the Italians, their great industry, causing them to accumulate a surplus of honey while common bees are gathering none, their complete defense of their combs against the ravages of the wax-moth larvæ, their disposition to adhere evenly and quietly to the combs when handled, the prolificness of the queens, and their great beauty,—all these are qualities which commend themselves to us, while we cannot find that they are inferior in any respect to the common race of bees. Their introduction has aided in the practical solution of many disputed points in the natural history of the bee. How easy, now, to determine the average length of life of the worker-bee. Just place a purely fertilized Italian queen in place of a common queen in a populous colony. At the expiration of three weeks the last black workers will have hatched, and the yellow-banded Italians will begin to gnaw their way out from their prison-like cells. In a few more weeks none but the gentle race of Italy can be found in the hive. Each little laborer has but a few weeks to live and labor, and then, having literally worn herself out tugging in her loads of bread and nectar-food she bequeathes her accumulated wealth to the support of the generations that come after her and which are to perpetuate the little community through the dreary period intervening between the harvests. Surely here is an example of patience and persevering industry that should not be unheeded by the fretful, the irresolute, and the idle!

Last, but not less justly entitled to rank as one of the mighty strides of modern Apiculture came in 1867, the honey extractor or mellipult as it has been styled,—the result of the inventive genius of Major Von Hruscha of Austria. This machine is simply a tin cylinder in which to revolve the combs and throw the honey from the cells. It is so simple that the inventive American wonders why it was not thought of sooner. By its use two or three times as much pure honey can be obtained from each hive; and many seasons when no surplus can be obtained in boxes a good yield can be secured with the extractor; besides, colonies can be assisted greatly in keeping up their numbers by having the brood combs emptied of honey frequently. Who can say after all this progress that there will not yet be such additional advancement made as will place apiculture in the front rank among rural specialties?

Thanking you most heartily for your kind attention, I close by expressing the hope that, in this—your first meeting you will not, as true Kentuckians forget the motto of your beautiful State: "United, we stand; divided, we fall."

For the American Bee Journal.

Criticism.

In the *Prairie Farmer* of the 13th, Prof. C. V. Riley takes up the cudgel ostensibly, in defence of Dr. Le Baron, State Entomologist of Illinois, because I had briefly criticised the fact of Dr. Le Baron's copyrighting his Fourth Annual Report. My criticism was in the form of an enquiry; and if Dr. Le Baron considered himself aggrieved, he is doubtless abundantly able to defend himself. But the latter part of Prof. Riley's communication, shows the animus which prompted it. It was to say a word for Prof. C. V. Riley, and to vent his spite against me, for giving a plain and correct statement of facts, albeit said facts were not especial-

ly flattering to him; forgetful of the f ·t "that in a Republican form of governm t it is one of our inalienable rights to discuss every question affecting our welfare."

Now for Prof. Riley's investigations in the department of entomological research, in so far as they have been beneficial to horticulture or agriculture, or to any of the human family, in any of the pursuits of life; he has my thanks and my gratitude. For his language and logic in his communication he has my contempt. He says, "she puts language into my mouth which I was never guilty of, (*i. e.*, misquoted him) and otherwise falsifies my statements." How otherwise could I falsify his statements? And again, "I ask the readers of the *Prairie Farmer*, who are also readers of the AMERICAN BEE JOURNAL, to consider what I have said on that subject over my own name rather than the garbled account in question."

Where "over" or under his own name, has Prof. Riley given an account of what he said on that subject, (the relation of the honey bee to horticulture) at the last meeting of the Illinois State Horticultural Society? What he may have said at any other time, or place, in the New York *Tribune* or elsewhere, "over his own name," is no proof of what he said, or did not say at Peoria. If Prof. Riley has said at a Methodist class meeting that "milk is good for babes," is that proof that he has not said at any other time or place that "oysters and champaigne are fine." Thus much for his logic. Now for the truthfulness of his language. That he did express himself substantially as quoted I affirm; and for the correctness of my assertion refer to Mr. Dunlap, or to Mr. Gaston, who took part in the discussion, to Dr. Hull, and especially to Mr. O. L. Barler, who I believe reported the proceedings of the Society; and finally to any member of the Society who was present. And furthermore, that as far as his remarks were pertinent to the question under consideration, (whether the honey bee was the friend or enemy of horticulture) I believe my report was a verbatim one.

Now this very polite and courteous professor says that I gave a "garbled account, misconstrue and falsify," now I shall not say that his statements are as far removed from the truth as he is from being a gentleman, and leave the public to judge the distance; but think if this polished and urbane professor can stand such language and such logic, I, being a woman, certainly can. If I were a man, I should simply say C. V. Riley is a——; gentle reader, you know how it is yourself. MRS. L. HARRISON.

Peoria, Ill.

For the American Bee Journal.

Three Hundred Years Ago.

My object in writing now is to give some extracts from a book on bees published nearly 300 years ago, and through it I will endeavor to show that with all our boasted knowledge of the bee we know but little more than was known at that time. The only difference is that but few knew anything of the habits of the bee, to-day many know it. The book is entitled "A Theatre of Political Flying Insects," wherein the nature, worth, work, wonder and right-ordering of the bee is discovered and described together with Scriptural and moral meditations added. Written and published by Samuel Purchas, M. A., in the year of our Lord, 1600. The moral meditations I would like to give the advice, would be of benefit to our more modern bee-keepers and there would be less backbiting, ill-feeling and desire to over-reach each other. S. Purchas speaks of consulting writings on the bee written many years before. His book is dedicated to Lord Robert, Earl of Warwick. I shall only give extracts that relate to the bee so that you can form an idea of his bee knowledge and compare it with yours.

In regard to queens, he says: If the queen bee should fall from a swarm through weakness her attendants will remain with her and starve with her rather than forsake her. The queen bee is a very amiable creature, of a bright color and more transparent than other bees, she is somewhat yellow about the belly and on her legs inclining to a golden color, and the color intimates the princely nature and royal blood (could this be the Italian?). If a queen bee miscarry in the hive, or by flying forth for recreation or impregnation, or otherwise stirreth not forth, come in some mischance, all her attendants are in mourning and confusion.

The queen is a royal creature, therefore she works not, it is beneath her dignity to drudge and toil. Though she has a sting yet rather an ensign of power than an instrument of revenge, for she never useth it. There is a magnetical attractive force in the queen bee, so that what the loadstone is to iron so is she to the rest of the bees—where she is, so will they be.

In regard to drones, he says: Bees when they are weary of the drones and have no further use for them, and fearing future want by their gormandising, show their dislike by molesting them. If this will not cause them to depart, set upon them and slay them. Drones labor not, but to the eye are goodly creatures, fairer and larger than worker bees, make great noise and are vain glorious. Observe them as often as you will and you will never find them carefully endeavoring their present or future good. *Nil dignum tants sonitu.*

As to workers, he says: Worker bees are laborious in their youth and yet are not idle in their old age. Even if she findeth not honey in one flower goeth she to another. They feed on honey, which over liberally eaten produceth cholera. No wonder they are furious and cholerie creatures. If confined closely they will gnaw away the impediment, though they have ease and air.

The field wherein bees feed is not a whit less from their feeding, but that oxen and sheep may grow fat. Bees can with facility dart out their stings, but have no power to withdraw them, except from a dead body, which she taketh no hurt, but in a live body she looseth both sting and life. It is a fabulous conceit that a bee when she looseth her sting becomes a drone, for it is not so, she dies. Bees though they be engaged in a furious strife with other insects wreck their spite by biting, and only when transposed with rage will they use their sting, only to their own ruin and distruction. She may trouble awhile with her buzzing but can do no further hurt. Bees smelling a field of cole-seed though three miles away will fly directly thither and be not tempted with other blossoms on the way.

As to the habits and creation of bees, he says: Many have troubled themselves as to the several kinds of working bees, whereas of working bees in this part of the world there is but one sort, and all bees agree, if not in size and color, yet certainly in operations, so that our bees and bees in Spain, and other parts of the world make all their combs with hexagonal like forms. Bees in frost are torpid, and the little worm from the egg after a short life of a week, stirs not and feeds not but lie dead and entombed in the cell it was bred, yet in a few days it will revive and appear a far more noble creature than it was before. The first life of a bee is scarcely worthy to be called life.—*Vita est non vitalis.* She is in a narrow cell without power, neither can she hear, but awaiteth to be fed.

The grub or worm in its first state of life is a rude creature, but when it is shut up to become transmuted then it is for a time a formless lump, without any beauty, but wait a few days and it will come forth in all its beauty. The young bees as soon as they have passed their second birth are winged and strengthened to fly and presently do fall to work and imitate the elder bees.

In swarming, he says: If a swarm come forth they await with impatience for the queen, go with her, encircle and protect her and where she goeth, so will they go. If a swarm be checked and stunted with bad weather after it is hived, or late in the year, the bees will be desperate and gather nothing to purpose, for they are out of hope to get enough for their winter store. Some hives will live two or three years and cast not a swarm, or if they do very late then 10 to 1 they miscarry and die, both the old stock and the swarm too. Now the best way to preserve such a stock is timely to drive it into an empty hive, and the bees being many will provide for themselves, if not they may be fed sufficiently against winter, and swarm seasonably another year. When bees are most angry in their swarming, or fighting, cast a little sand or water among them and they are presently quiet. Bees when they go forth in a swarm will sometimes be provided of a habitation beforehand. A hollow tree or an old hive, they will at once purge it of dead bees, rotton combs and stinking substances, for bees are neat, sweet and cleanly creatures, abhorring stinking places.

Let a swarm be hived ever so carefully and the hive prepared and shadowed from the sun, yet if the queen be wanting, there is nothing but discontent and confusion till she be found. Bees that are new driven or go forth in a swarm, even if they be few, will labor more diligently than other hives that are well provided for. The bee master on all occasions of want will feed his bees but never the drones. Let a swarm remain at the place where it was hived for a few days and then remove it to a new standing, yet for 2 or 3 days if they fly a brood will repair with their labors to the first place. Bees in violent frosts if they have not a few rays of sunshine become diseased from their inability to discharge their foulness, except in the hive. Bees will not continue well without a leader therefore if a union of swarms or castings be made the bees will then dethrone all queens but one.

Many, observing bees flying into their hives suppose them best furnished when they see them go home laden on their thighs, and think the others idle, whereas the others are best laden being well freighted with honey. Plundering bees will spoil and rob their neighbors, but if they find sentenels before the posts to question and oppose them, and if numerous will through treachery work their destruction.

Bees extract but little honey in July but if a honey dew falls they in a short space are largely replenished with sweets. Bees, as many other creatures, have wit enough to find out remedies for the cure of their maladies. If they be near the sea, delightfully gather from flowers in salt marshes, if they be remote from the sea they drink water from sinks and saw-pits and extract the nitous saltness therefrom.

Bees when they are contented give forth a delightful hum but if acting illegally give forth an uncertain noise like an instrument out of tune. Bees when they have filled themselves with water cannot gather honey till they have vomited it up. Bees live like soldiers, in camp and have always night and day their scouts and sentinels to keep watch lest their enemies surprise them. Bee masters tell us that the hives that make the most noise are the best ones, and they are also over-diligent to kill all the drones (as they will not only pester but prejudice the hive) and will also feed the bees but never the drones.

A bee sting enters easily and when the bee has flown away the sting works itself deeper, diffusing thereby the venom more strongly. The combs of bees are perpendicular from top to bottom of the hive and so they are long, yet have breadth likewise.

Some cells are filled with bee bread, some with honey, some with brood and others are empty. Mice are hurtful to bees and so are moths but not at all times alike. In the swarms when the bees are lusty and keep constant guard, no hurt will come to them, but when weak, or cold weather benumbs them, they can without hazard rob, plunder and destroy them. The enemies of the church are compared to bees. "Fear not their rage they are bees not lions, they buzz and make great noise, they cannot do what they would but work their own destruction."

The forgoing are but a few extracts from his book. In his preface he advises all cottagers to meet and form societies for discussions on the bee. He would be glad to give them instructions on the bee, as they can be made of great profit.

Mr. Purchas travelled a great deal as he speaks of bees in Spain were he saw and compared them. A BOOK WORM.

For the American Bee Journal.

Wintering Bees in Glass Observatory Hives.

As many Bee-Keepers fail in keeping their bees alive in glass hives over the winter I send you an account of my Improved Glass Observatory revolving bar-frame Hive; the four sides and top of which are composed of layers of glass, and I have kept bees in them for a great number of years all through the winter, and never lost a stock of bees in one of them yet.

My Observatory Hives are kept in an open latticed arbor and are always exposed, winter and summer, to the light and cold, and

are the warmest hives in winter of any kind of hive I have tried, either made of wood or straw. The thermometer in the hives (observations of which have been taken for a number of years, three times each day all the year round) indicate a mean temperature of about 4 degrees in December and January, and 4½ degrees in February, higher than the mean temperature inside my other woods or straw hives.

The bees do the best in these glass hives in winter and summer of any hive I have ever tried, and I have never lost a stock in any of them yet, and fewer bees die during the winter than in any of my other hives. The great success of these glass hives is caused by being made with several layers of glass, with a space of confined air between each, as confined air is the best non-conductor of heat of anything we know; and the reason I adopted this plan was that I noticed the bees (in some hives with a glass side my father got made in 1806) always went the farthest from the glass side in winter.

In 1844 a gentleman went to Russia, and when he returned he told me, that it was so cold there in winter, that in their cotton factories they put double windows, otherwise they could not spin their cotton yarn. I said to myself this is what my hives want, and I tried them with two glasses, which was a great improvement, but I afterwards increased them to four, as I then got three spaces of confined air instead of one, and the result has been most satisfactory.

A great many bee-keepers have tried in this country to keep bees over winter in unicomb hives made of thick wood, and also of glass and they have been placed in green-houses and all other situations where the temperature is kept uniform, but I have not heard of a single stock that did not die before spring, or so many of the bees died that they did no good afterwards.

It seems to be essential for bees to cluster together to survive the winter, and in the unicomb-hive they cannot, as both sides of the combs are exposed to an outer surface.

In November I remove the glass cover of my Observatory hives, and tie one or two folds of blanket over the top of the hive, and never have any dampness in the hives, the outside combs being as free from mould as the centre ones. I leave the blankets on during spring, but in February I put the glass covers on the blankets and make all tight and warm to encourage breeding, and to further stimulate the bees and queen I give each hive about half a pound of sugar syrup each week, taken down through just the number of holes under the bottle, so that the half pound just lasts them a week.

WILLIAM CARR.

Newton Heath Apiary, near Manchester, England, Feb. 12th, 1875.

For the American Bee Journal.

Eccentric.

The March number of the "old reliable" is at hand in good season once more, reminding us of the "long ago" when it used to put in an appearance with the advent of each month so regularly that we could have foretold it without one of "Josh Billings' Almanax." We trust that it may continue to come with equal promptness and regularity, as long as bee culture shall engage the attention of the American people.

We notice several items in our article this month that are not as we intended to have them; but as they are of minor importance it may not be worth while to correct them, especially as we might endanger our *nom de plume* by the attempt. However, we shall endeavor to prevent any errors creeping in the manuscript hereafter.

The article on "Wintering Bees" by our talented editor, while good in many respects, is, it seems to us, a little partial. In speaking of the various means devised to avoid the bad effects of cold and confinement, he does not even allude to flying bees under glass, or in other words, Mr. Bidwell's "hot-bed method." Why? Is it because that proof is lacking as regards its utility? Or is it—well, something else? We are aware that this method has not been entirely successful as practiced by many; still, we think it more than likely the result of non-compliance with the requisite conditions. Mr. Bidwell's reputation for truth and veracity are, we think, above question.

The recent action of our bee conventions seems to puzzle our friend Dadant. We were surprised at what was said at Pittsburgh by several parties in regard to this question. Though those statements have been considerably modified, it still leaves an impression of the doubtful propriety of continuing these importations. The main point in the whole matter is simply this: if Italian bees possess qualities which make them desirable, and these qualities are only fully developed in their native clime, why, we must continue to import. The idea advanced by Mr. Bingham, that we endanger the health of our own apiaries by procuring these queens is, we must think, a little too far fetched, since Mr. Dadant first tests them in his own apiary. On the whole, the moderate price at which Mr. D. now sells imported queens, and the obvious advantage of having stock in its original purity is, we think, an ample inducement to patronize Mr. Dadant. At any rate we shall do so the coming season.

There is one topic which, though of vital importance to those engaged in bee-culture, has received but very little attention as yet, and that is, what are we to do with our honey in the near future? Though our bees have died by the wholesale during the past few winters, and drought has curtailed the secretion of nectar, honey is a drug in most markets, even now. When honey by the thousand tons shall be put on our markets from California, as it seems inevitably to be done, and that at no distant day, it will be no easy task to convert our honey into money. Of course, the demand will increase with the supply; still it seems to us that honey must "come down" in price until it reaches the "bottom." After all, it may be preferable to sell at a lower figure, provided we can do so at a ready cash sale.

At this date (March 6th,—we give it to please friend Argo) reports are coming in "thick and fast" of the great loss of bees. Since many were left out on their summer stands we cannot conceive of other than disastrous results in view of the fearful protracted cold and bitter winds of the present winter. With the mercury ranging from 30 to 40 deg. below zero and almost continual high winds, it would be surprising

indeed if bees could winter out unprotected. Well, bee-keepers like all other people must live and learn, we suppose, even if it be at the expense of a dear bought experience; at least, so thinks ECCENTRIC.

For the American Bee Journal.

Adulterators of Honey.

In the JOURNAL, Page 35, No. 2, I see Mr. Dadant comes out to defend the adulterers of honey and makes some grave mistakes, but I do not believe him to do so intentionally, yet such mistakes bring serious injury. If I was in the business of selling bogus honey I should not ask any better defense for my trade than this one. He also condemns the members of the N. A. Society for wanting a means to prevent honey from crystalizing, granulating or candying. There are two motives behind this, if I knew which one then I should reply very plainly. He asks "how can you prove their culpability if you don't know the means of detecting the adulteration. I will let in the light from the "Old Keystone" from the hill top that it may be seen a far off, presently. Will some one tell us, was the honey that C. Dadant & Son took through Quincy, Ill., not long since, all candied if not, *it was spurious?* He asks that the Journals informs their readers that the best test is candying. That means then, that we cannot sell our honey until cold weather, so that it may candy, to prove its purity. That idea is absurd, but he admits it may be liquid from June to December, but from December to June they can with absolute certainty declare it sophisticated honey or that which has been boiled and lost its flavor.

I would inform the gentleman that we are Americans and not Frenchmen and do not need go to France for candyed honey nor immortality; proud America can eat her virgin honey and boast of her morality. Please do not go to circulating such errors in our papers.

Now Bee-Keepers look out, for if such a test is adopted we would not get as much good honey as we do at the present time, mixed with glucose, we do get some now but would not find any soon.

I will note Mr. Dadant's scientific points which are not sustained and pass on to give the subject a true scientific ventilation and leave all your readers to decide if the points are well taken. His statements are: Honey granulates; sugar syrup does not granulate but crystalizes. Honey candies because it is ——sugar, which granulates and does not crystalize. Sugar syrup which is made from cane sugar does not granulate but crystalizes.

We reply pointedly, that these statements above named may have exception, but in their relation as they exist in commerce are false.

HONEY.—A liquid prepared by *apis mellifica*. Honey exists already in the plant or flower of the same, and it is certain that the nectaries of flowers contains a saccharine matter, which is extracted by the insects. The character and flavor of the honey, are very much affected by the nature of the plants which predominate in the vicinity of the hive; still, it probably undergoes a change in the organs of the bee; as the saccharine matter of the nectaries, so far as it has been possible to examine it, wants some of the characteristics of honey.

The finest honey is that which is extracted from new comb and if from a hive that has not swarmed it is called *virgin honey*.

In a primary state, (and as it always exists in a healthy colony) honey is fluid: but, in being kept, it is apt to form a crystaline deposit, and ultimately converted into a soft granular mass. Its color is white, but sometimes of a brown, or redish tinge. It has a peculiar agreeable odor, depending somewhat on the flowers from which it was collected, and a very sweet taste, a feeble aromatic taste followed by a prickly or sense of acrimony in the fancies. Its specific gravity greatly varies in the early part of the season but in December (in the colony) its specific gravity is about 1.333, (Duncan). Cold water dissolves it readily. Alchol with less facility. It contains *crystalizable* sugar analagous to grape sugar, and according to MR. SANBORN, two other kinds of sugar, one of which is changed by acids: the other is not. The first of these two sugars are not always present, as it is behind, that in time is changed by acids in granular sugar. It is found abundantly in honey taken from the comb. The second is found to be similar to the uncrystalizable sugar produced by the re-action of acids on cane sugar being identical with it in composition, and incapable of crystalizing and very sentitive to alkalies. But it is distinguished by the *impossibility* of converting it into *granular sugar*, and having twice the rotatory power of uncrystalizable sugar. Crystalizable sugar may be obtained by treating candied honey with a small quantity of alcohol, which when expressed takes along with it the other ingredients, leaving the crystals nearly untouched. Same results may be obtained with carbonate of lime.

SUGAR.—Saccharum abum, refined sugar, sugar cane, contains about 10 per cent of sugar, of which there exists from 3 to 4 per cent of uncrystalizable sugar, and from 6 to 7 per cent of crystalizable. The juice from sugar cane averages about 50 per cent and is at once treated with time to neutralize or separate the gluten and album. But it is useless to treat of sugar any more than to give the tests for the detection of it in honey, and will pass it to the tests.

Its specific gravity is 1. 6. dissolves in ½ its weight of cold water. An aqueous solution of sugar when in a warm place, has the property of corroding iron partly immersed in it, and the solution itself, become impregnated with protoxide of iron and of a deep brown-red color, a similar effect is produced on lead, but zinc and copper are but slightly acted on. Sugar is nearly insoluable in alcohol, but will in four times its weight of boiling alcohol, sp. gr. 83.

Cane sugar may be distinguished from grape sugar or honey by Tromer's test. If a solution of sulphate of copper and potassa be mixed with cane sugar, in excess, a deep-blue liquid is obtained, on being headed, lets fall after a time, a little red powder. A solution of grape sugar (or glucose) similarly tested, yields, when heated a copious green precipitate, which readily changes to scarlet, eventually to dark-red. Chemically pure muriatic acid, or sulphuric acid chars cane sugar. Cane sugar is often (crush sugar) adulterated with starch and may be detected by adding a solution of ulide of Potash or tincture of iodine to a solution of honey or

sugar, which turns the composition of sugar ir C. 12, H. 11, O. 11.

GLUCOSE.—Glucose or grape sugar may be obtained in various ways, but is principally from grapes by the French and is found in commerce in the liquid and solid state. The liquid has a taste very similar to that of honey which has been candied and the solid or grape sugar has the appearance and taste of candied honey, and in very cold weather is difficult of detection, except the sugar be more dry, and of a taste more like that of fruits, but if the honey be principally from fruits in September and then candied, the distinction is scarcely noticeable. Like honey or cane sugar it is susceptible of being crystalized or granulated. Honey contains one part in four of glucose, cane sugar (as obtained from the juice) three parts in ten. Glucose may be obtained from honey by placing crystalized honey on a porous tile, dissolving what remains on the surface with cold alcohol and crystalizing. It is obtained from concentrated syrup, and is in the form of crystaline grains, but crystalized from alcoholic solution it has the shape of square tables or cubes.

It is less sweet than cane sugar or honey. It is also less soluable in water and much more soluable in alcohol, its sp: gr: 1.386.

Strong mineral acids hardly act on grape sugar, but destroy cane sugar with facility. On the other hand alkalies destroy grape sugar and form compounds with cane sugar. See cane sugar in this article for further tests for glucose.

The composition of glucose is C. 12, H. 12, O. 12.

Therefore, any intelligent reader will soon see that Mr. Dadant's test is not at all to be depended upon, even if the honey be candied. DR. W. B. RUSH.

Simpson's Store, Pa.

North-Eastern B. K. Association.

The fifth annual meeting of this Association was held at the Butterfield House, Utica, N. Y., Feb. 3d and 4th, 1875, President Quinby in the chair.

The minutes of the last annual convention were read by Secretary Nellis, and approved.

The chair was then filled by Vice-President Alexander, of Camden. Mr. Quinby having temporarily retired.

A report was received and approved from the treasurer, Capt. Hetherington. Some time was then devoted to the enrollment of members.

A brief opening address was delivered by President Quinby. The speaker alluded to the prospects for the present meeting. He suggested in particular the education of the people to do away with the popular and foolish fear of being stung by the insects. The president spoke of the newly-found method of adulterating honey, and suggested that each honey producer place a distinctive mark upon his product which would bear assurance of its genuineness.

The election of officers was next in the order of business, and an informal ballot was taken for president. A unanimous vote was given to Mr. Quinby.

He declined to again hold the office, however, and upon motion, the election of officers was deferred and the correspondence of the Association was read.

The first essay presented to the convention was written by Prof. A. J. Cook, of Lansing Agricultural College, Michigan. It was read by Secy. Nellis, as follows:

INSECT RESPIRATION AND BEE-CULTURE.

It is a curious fact, often wondered at, that no two human faces, nay more, no two blades of grass are exactly alike. Nor is it less wonderful that each class of the various branches of the animal kingdom, has its own peculiar methods of developing structure which implies peculiar organs, with special arrangement and adaption. Hence in the articulate branch, we find that the insect class, including the myriapods (thousand-legged worms); arachnids (spiders), and the higher six-legged insects possess a peculiar breathing apparatus. They, unlike those higher animals, whose physiology is more familiar to us, do not have a common mouth for the reception of both food and air, nor yet specialized lungs, where air and blood come in near contact, that the latter may be purified. But in this class there are always more than one, often several breathing mouths, which are always situated along the sides of the body. These breathing mouths are plainly visable in the so-called tomato worm, the larva of the tomato moth, which openings looking like periods along the sides of the insect, must be familiar to you all, though you may never have know their function.

The breathing mouths may be seen by close examination along the sides of the larvae of bees, and even in the mature bee, the larger spiracles under the wings upon the side of the thorax, may be discovered by a little care in scraping off the hairs. As in the human nose there are hairs, to intercept the dust particles, so too these insect spiracles are not without even a more complicated arrangement, consisting of a sort of double value to effect the same end. These spiracles or breathing mouths connect with two long tubes, running either side of the body, which in rapid flying insects, as our bees, often expand into very large vesicles, whose supposed function is to permit a decrease in the specific gravity of the insect which is effected by filling these vesicles with air.

These lateral tubes branch into an indefinate number of lesser tubes which ramify to every part of the insect. These tubes or tracheæ, as they are technically called, are composed of a spiral thread, and as microscopic preparations are very beautiful, looking as if a gold thread had been wound closely around different sized wires, after which the wires were withdrawn. The number of these tubes is marvelous, and I am sure that I show my classes in entomology, no microscopic specimen which interests them more than a preparation of these tracheæ which I took from a bee. The specimen not larger than a 3ct. silver piece, with a power of two hundred diameters, shows innumerable tubes, seeming to form a most intricate net-work. These minute air tubes extend to every part from the tip of the antennæ to the very peripnery of the legs and wings. Thus these air tubes, which are analagous with the lungs of our higher animals instead of being localized, or confined to a special part, extend everywhere, hence the blood in insects needs not to convey the oxygen of the air to the various tissues as in higher animals, for the oxygen is

everywhere ready to be taken up by the blood, which as is generally believed does not circulate in special tubes, but penetrates everywhere among the organs, passing through the interstices, and everywhere bathing this labyrinth of tracheæ or air tubes. Even the veins of the wings contain each its tracheæ around which the nutritive fluid passes freely. It is a demonstrated fact that among higher animals, it is the function of the red globules of the blood to convey the oxygen, as we also know that it is the iron contained in the hematine of these same globules which gives the blood its characteristic color. Thus we understand why in insects, when the oxygen needs no transportation, there is an almost entire absence of globules in the blood, as also why their blood is white or yellow instead of red.

It was stated above that this tracheal arrangement of insects, was analagous to the lungs of higher animals. Yet there is a marked difference, which it is well to point out. The lungs are localized organs, doing their special work for the whole body, and are doubtless none to large for that purpose, hence could we get at them, and even lacerate them without harm to the body, still I think all physicians and physiologists would hold that even a limited slicing off of these organs would injure health. I suppose that all physicians would hold that even slight phthisis would affect the general health, and that our State boards of health would labor most diligently to remove any condition in nature or domestic life, which had the faintest tendency to obstruct the free action of these important organs.

But with insects the case is far different. Each organ, or wing, or leg, has its special trachæ, whose only function is to minister to said organ. Now if the organ is an effete appendage, its removal carrying with it the air tubes does no harm. Nay more, is a benefit, as the slight nourishment which it, even if inactive, appropriated, is saved to minister to useful organs. Who would say that the amputation of a leg or arm, would entail perpetual ill-health, because forsooth the blood vessels, whose function it is to carry the blood, were removed? We all know that the vessels served the member removed alone, and the member gone, the vessels are no longer needed. So too with the insect member—it gone, the air tubes, could they remain, would be in the condition of Othello.

That this reasoning is correct is shown in the life history of the common ants (formicidæ), and the white ants (termitida) which bite off their queen's wings after the mating is over. This is done to protect against the roving proclivities of her royal highness. Are we quick to learn, if a similar need does not beget a like operation in our own management?

The history of these ants also shows that there is little danger from hereditary tendencies, as we never see virgin queen ants void of wings. Else we might pause in alarm since Mrs. Tupper and her followers have failed to convince the general public that fertilization in confinement is practicable.

Hence, we see that a thorough understanding of the anatomy and physiology of the respiratory apparatus of insects will preclude Gen. Adair's nervousness as regards clipping queen's wings, from becoming contagious.

I do not wish to be understood as committing myself in favor of indiscriminate clipping, for I readily concede that arguments can be advanced on the plea of beauty, and danger of losing valuable queens in time of swarming. Yet I do hold that the queen receives no physical injury, as proved both by science and experience, and that it is a valuable auxiliary to those apiarists who are wise to understand its dangers and advantages.

Insects, in common with many animals much higher in the scale of animal life, possess that strange power to hibernate during cold weather, at which time they seem to be on the "dead line," just between life and death. In this condition the vital processes are held in almost entire suspense. No food is taken, the blood moves very feebly, and little oxygen is required. The condition is something like profound sleep. As there is no exertion or exhaustion, and the breaking down of tissues almost cease, while no doubt there is a slow but continuous recuperation of strength and energy. Now, this being the case, it seems highly probable, aye, almost certain, that in the interims of productive exertion the more protracted the hibernation, the better the condition of the animal.

Now does it not hold to reason that if we secure the best conditions for wintering, those which will ensure persistent hibernation, as indicated by the most perfect quiet, our bees will need scarce any air, and hence no ventilation either upper or lower. Reason proclaims this as a fact. My experience sustains it. I have had colonies surrounded by snow the winter through, with hives sealed with propolis above, and the entrance below frozen solid with ice, and in this condition from November till April, come out in spring as bright and beautiful as if only restful sleep had visited them, with scarce any dead bees, and hardly any consumption of honey. Hence I believe we may conclude from our study of respiration among insects, first, that the destruction of trachæ will of itself produce no harm; that the only harm will come through the loss of the organ. And, second, that if bees are in condition to winter best, the respiratory action is at the extreme minimum, and hence we need take no pains to arrange for ventilation.

Conclusion from second inference.

This being granted, what more important problem awaits solution than a method of wintering, which insures the most perfect hibernation. How can we arrange to keep our bees always at the proper temperature?

Then followed an essay written by H. A Burch, of South Haven, Mich., concerning

FACTS AND FANCIES OF APICULTURE.—LETTER TO THE NORTH-EASTERN BEE-KEEPERS' ASSOCIATION.

Gentlemen:—By request of your worthy secretary I will present you, though in a necessarily hurried manner, a few thoughts on the subject of apiculture.

While recognizing the importance of the work which bee-keepers' conventions are aiming to accomplish, and appreciating the great good they have already accomplished, and being anxious that their field of usefulness may be greatly extended, it seems to us that a consideration of this subject is one which might result in good to us all. In reviewing the history of apiculture in America for the past decade, we find much to encourage us in our endeavors to establish our pursuit upon a permanent, scientific basis. While this is the case, we cannot deny that there is also very much that is to be regretted, much that mars the otherwise fair history of bee-culture. He who has attentively read our various bee journals cannot have failed to note the spirit of much of their contents as being prejudicial to our interests. How many of us have, with a sort of boyish impetuosity, *urged* people to engage in bee-culture. To the man broken down in health; the man whose pocket book was empty; he who had failed in other callings; those who were dissatisfied with the slow but sure accumulations of agriculture or mechanical trades; to all these have we pointed out apiculture, as the one sure pathway that leads to wealth and

happiness. In doing this, we have ignored the fact that all men are specially suited to some particular calling; that to make this occupation of bee-keeping successful, he who engages in it must, by nature, be adapted to its requirements, in some measure at least; that it requires money, brains and muscle to conquer obstacles and achieve success, as in other pursuits.

We have too often portrayed a path all strewn with roses without thorns; all sunshine and no storm; a pursuit that embodies the very essence of earthly happiness with none of its alloy. As if this were not enough, we have descended from the airy realms of imagination to life's every day level, and with all the fascination of a romance, portrayed the achievements of a Grimm, a Harbison and a Hetherington, in "honey gathering rapidly," forgetting that where one man has been thus successful, a thousand have failed.

Gentlemen, this is no overdrawn picture. Thousands of persons in this country will tell you that it is only too true. How many men who were urged into the keeping of bees a few years ago, and who have lost all during the past two or three winters when bee life "took wings and flew away," we know not. We do know that the number has been by far too many, and that it has been to our injury, bringing our fair calling into disrepute in many sections. We have been made to realize this most forcibly in receiving numerous letters from parties stating that they engaged in bee-culture by our own and the advice of others, given in bee journals, and had lost all.

While pleading guilty to some extent, in this respect, we have resolved to avoid this error in future, and make amends as best we may, by detailing that which may contribute to the success of those already engaged in apicultural pursuits. A few suggestions and we are done.

Let us *cease* to *urge* people to keep bees. How many men who are eminent in their callings or professions were urged to choose as they did? The men succeed who engage in any business from *a love of that business*, possessing talents which qualified them for it. These are the men whose names adorn the annals of every science known to man; the men who have led the advance in every department of the progress and improvement of our modern times; the men whose genius has given an irresistible impetus to our advancing civilization. Rather let us turn our attention to those things which tend to establish our pursit upon a permanent basis; and when we shall have learned how to avoid failure and win success ourselves, it will be ample time to teach those who do not know how to succeed. Until bee-culture is rendered more certain and less precarious, let us cease to relate fabulous tales, which excite the curiosity and superstition of outsiders that must so often end only in chagrin and disappointment.

In behalf of the Michigan Bee-Keepers' Association which we in part represent, we send greeting and best wishes for your continued prosperity, trusting that your future sessions may be mutually present and profitable. Fraternally,

HERBERT A. BURCH.

L. C. Root approved the position, claiming that there should be a careful training and education in the direct care of bees before profit can be assured, and that those who attempt it without the study, may expect to fail.

A letter was read from W. W. Cary, of Mass., taking position that there has been much injury done to the bee-culturist by breeding queens not in accordance with natural laws, because degeneration is the result. A good queen mother should be of good size, large to the chest, trunk somewhat tapered, movements strong and even and by no means of a nervous temperament. A nervous queen is usually short-lived and should not be used as a queen mother.

Mr. Nellis and Mr. Tennant approved the growing of strong queens and of crossing the stock continually.

A letter was read from Dr. W. B. Rush of Penn., stating that he was engaged in a new method for wintering his bees. Capt. Hetherington remarked that it was apparent that Dr. Rush was an investigator, and moved that the secretary be instructed to request him to give the results of his experiments at the next convention. The motion was carried.

Upon motion Prof. A. J. Cook, H. A. Burch, W. W. Cary and W. B. Rush were made honorary members of the Association.

The convention then listened with interest to an address by S. Alexander, of Camden.

IMPORTANCE AND BEST METHOD OF EDUCATING MEN TO THE BEE BUSINESS, TO PREVENT LOSS IN POOR SEASONS.

The eccentric Thoreaux demonstrated by experience, that man may healthily subsist on a very small amount of expense. But the requirements of our modern taste and time, does not regard abstemiousness as virtue, nor denial of the good things of life as condusive to the truest enjoyment.

Honey has, in all ages, been regarded as THE sweet, the nectar of the gods, the synonym of luxury and enjoyment, the highest ideal, "a land flowing with milk and honey," assuming with our savans, that honey is not made, but gathered, and consequently if not gathered, lost, it becomes a question, whether with knowledge adequate to its collection, man is justified in rejecting (which neglecting is) to secure such a valuable article of sustenance, perhaps the most condensed and healthy nutriment in existence. We think we may as well acknowledge that man is mainly, if not exclusively, controlled by self-interest. (The nearest approach to unselfishness I know of is this Society, teaching and inducing others to enter the field as competitors). That being the case, we think to discuss this question of how best to educate our neighbors can best be done by our own success? If we satisfy them that every ten acres is sufficient for one hive, that every hundred acres, admitting that all kept, would give sufficient range for ten hives,

which properly managed and honey extracted, (which for surplus is the most rational method yet devised) would give an average of at least 1,000 lbs.

Besides, every enlightened cultivator knows that fertalizing of all fruits and grains is thereby secured to a much greater extent. When satisfied of these facts, what is the best course for those wishing to engage in the business? I would advise to associate themselves as partners or otherwise with those who by experience and study had so far mastered the science as to be competent instructors—in one word learn the trade—reach in this way the knowledge which has cost years of study to attain; for it is my humble opinion, and I have kept bees more or less of the time for the last 40 years, that there is no business or occupation that man ever prosecuted or engaged in, that the scientific or right way is so different from the old way as bee-keeping. Having raised it above all chance or luck, except the occurrence of unfavorable seasons, the truly enlightened apiarian will have his stocks in a situation to make available every advantage which may arise. Strong at the proper time, less in numbers when bees can do nothing but eat, recognizing them as active, never being entirely dorment, keeping them in a comfortable and suitable temperature, health and condition; with this knowledge, with this care, I think the very worst seasons will afford as much for the credit side of the ledger, as most other occupations under like discordent circumstances, for I believe that there is no occupation where the same amount of capital, will be subject to less drawbacks.

I would not like to guarantee that ten per cent. of those who engage in apiculture will succeed. No power on earth can make them painstaking, persevering, intelligent and determined. The few will prosper, the rest will fail and scatter the seeds of disease and destruction among their neighbors, and then say bee-keeping is a humbug. I have tried it. A few will persevere, will read, will write, will meet together for the purpose of mutual instruction, and their success and satisfaction at having enhanced the means of enjoyment, secured a pecuniary compensation and opened a wide field for industry and enterprise.

Though the most advanced in the science of apiculture, like the desciples of other science, never expect to reach perfection, yet already much has been attained; and the agitation of thought is the beginning of wisdom, in this as in every other attainable acquisition. Mind, the great motor, will devise methods, recognizing law, not chance, as the true principle, from affects deducing causes, acting in harmony with our industrious pets, making their instincts available for our advantage, and while benefitting ourselves, make the world and its sentient creatures better and happier from our having lived.

Upon motion of Mr. Nellis, Messrs. L. C. Root, J. E. Hetherington and C. C. VanDeusen, were constituted a committee to open a question drawer. It was moved that a committee be appointed to examine the minutes of the North American Bee-Keepers' Society in order to see whether there was anything of which this society should take cognizance. Messrs. J. H. Nellis and N. N. Betsinger were appointed the committee.

The election of officers was then effected with the following result:

President, J. E. Hetherington, Cherry Valley; Vice Presidents, G. B. Seeley, Syracuse, S. Alexander, Camden, I. L. Scofield, Chenango Bridge, N. C. Fisk, Abbotsford, Prov. Quebec, Canada, G. G. Dains, Antwerp, G. H. Byrns, Pratt's Hollow; Secretary, J. H. Nellis, Canajoharie; Treasurer, L. C. Root, Mohawk.

A discussion ensued concerning stings, and assurance was given that with determination and intelligent action and precaution, the danger of stings may be overcome and fear removed.

The Association adjourned until half-past eight o'clock the morning. In the evening an informal meeting was held at the Butterfield House, which was greatly enjoyed by those present.

SECOND DAY.

The second day's meetings began at nine o'clock, Thursday morning, the newly chosen president, Capt. Hetherington, in the chair.

J. H. Nellis, reviewing the proceedings of the North American Bee-Keepers' Society, noted the fact that preparations are being made for a honey display at the Centennial; that the Society adopted strong resolutions denouncing the trade in adulterated honey; that a standing committee was appointed to arrange a system of premiums for Italian queens and full colonies for the next meeting of the Society; that the next place of meeting will be Toledo, Ohio, and the time, the first Wednesday in December, 1875; also that a receipt was read which it was claimed, will prevent syrup or honey from souring or granulating. The receipt is, flavoring extract of lemon, 1 teaspoonful to 1 gallon of syrup or honey.

Mr. Van Deusen moved that the President and Secretary act as a committee on behalf of this Association to do what is necessary toward a representation of the Association and the productions of its industry at the Centennial. The motion was carried.

Considerable doubt was expressed as to the feasibility of the plan and the ability to judge of the merits of bees and queens by their appearance, in order to give premiums or diplomas.

Mr. Root thought the flavoring extract of lemon should be classed among honey adulterations and denounced. Educate the people to know that the granulation of honey is a good sign of its purity.

This seemed to be the general opinion of the Association.

A paper on "Hives" was read by R. Bacon, Esq., of Verona, as follows. We quote the concluding portion :

I do not propose to discuss the merits of this or that hive, such a course would only result in a buzz about my ears, without, as I think, leading to any good results. It is with hives very much as with mowing machines, the farmer often viewing and reviewing the different machines is puzzled to determine which is the best, yet, no doubt, some are preferable to others. So it is with hives, We see in market tall hives, short hives, narrow hives, wide hives, two story hives, one story hives, bar hives and box hives, and many other hives, and men ready to show you the good qualities of one hive over the other, and, when you have gone the rounds, if you have had no practical experience in bee culture or have no judgment of your own, you may be led to believe the poorest hive the best. I would advise the beginner in bee-keeping to use discretion in this matter and take the middle ground. He should choose hives containing frames of convenient size, and safe to handle, for general use. They should not be complicated or costly; they should be capable of construction by any man who is handy with tools. The bee-keeper who does not depend on his bees for support may lay out money for costly and fanciful hives ; but the majority of bee-keepers want a cheap, practical hive. I have had rough, cheap hives, and elegant, costly hives, and I have found in every case, all thinge being equal, bees have done full as well in my rough hives as in the more costly ones. The wants of bees are few, and they are not partial to fancy hives, and all variations from their wants are to benefit or gratify the taste of man. Give the bees a proper-shaped hive, and sufficient amount of room in the hive, and good care, and they will give ample returns. Now, there has been much said and written on what constitutes a proper size and shaped hive. Some contend a hive should be large. Others say twelve inches square is the proper dimensions for a standard hive. Now, my experience with large hives has been anything but satisfactory; they neither gave new swarms nor a large amount of surplus honey. Of course I speak of working these hives for box honey. I think an extractor would show better results, but my experience in the other extreme of hive has been no better. A hive twelve inches square is too small for bees in any place. The swarms from such hives will be small and generally inferior compared with swarms from larger hives. There is but little room for surplus bees, and therefore not a very large amount of honey can be expected, and with the best of care in two or three years, the bees will be gone. Between these two extremes, I believe is found the correct medium. A hi e sixteen inches long, twelve inches wide and twelve inches deep, and frames to fit, and have it so constructed that side boxes or extractor can be used, if the season requires it, comes nearer to what I think is the hive for general use. The frames are of convenient size, and safe to handle for either extracting or other uses. The size of the hive is simple for the wants of the bees, either in summer or winter, and I think we will hear of less mortality among the bees wintered in this hive than in our shallow ones, and I think for surplus honey will be satisfactory. Of course I am speaking of raising bees in the North. If we were in the Southern States, no doubt a different hive would be required. I believe it is often the case that localities cause very much contention about the style of hive and the management of bees, and were we to consider from each other's standpoint, and reason accordingly, it would save us many jangles in bee culture.

Mr. Alexander asked whether a frame 12 inches deep and 16 inches long, would sustain the comb.

Mr. Bacon—My frames fit a 16 inch hive and are not more than 14 inches long and less than a foot deep. These held the comb perfectly and had no difficulty in breaking down. I have two reasons for this size. You will get more surplus honey from this depth of hive and the bees winter in them better.

Mr. Hetherington—Combs can be held in the long frames by putting the thorns of the red haw through the frame and into the comb.

Mr. Seely—Do not the bees try to eat out the thorns,

Mr. Hetherington—Yes, but only a trifle. A soft wood pin they will eat at, but one of these thorns with a glossy surface they will trouble very little. The thorns should be put in when the bees are gathering honey in abundance.

Mr. Betsinger—Thorns are good in large frames, but in small frames they are a nuisance. A frame ought to be the size of the brood chamber. This is rarely over nine inches in width. In the large frames the best honey is placed around the brood chamber and this honey is lost to the bee-keepers. I believe that for box honey the frame should be only the size of the brood chamber. For extracting, a larger frame could be used to an advantage.

Mr. Alexander—The insertion of the thorns requires time and trouble. What I wish to gain is a frame which will hold the comb without them. Mr. Bacon says his size will do this. Mrs. Tupper recommends twelve inches square. If it can be lengthened to 14 or 15 inches it will be a great advantage. It seems to me that a shallow hive like Mr. Betsinger's is inconvenient and not good for wintering.

A. L. Fish—Has there ever been a bead placed on the inner side of the frame to hold the comb steady. Would this be practical?

Mr. Root said experiments had been made in that direction, but they had not been found practical.

Mr. Nellis wished to know how many frames could be spread laterally to the best advantage in extracting.

L. C. Root—I would not have more than twenty-four frames in any hive. The queen is apt to move to one side, and the bees on the other side thinking they have no queen will proceed to rear one. I believe that the two-story arrangement, getting the frames into as near a spherical position as possible, is natural and best. If I have twenty-four frames I would have twelve above and twelve below.

A. L. Fish—A queen will work in the warmest part of the hive. I find that in a sixteen-frame hive, when a new swarm is put in, it is a good plan to put in a center board, confining the swarm at first to eight frames. If they afterward require

more room the center board may be removed.

Edward J. Wickson, of the Utica *Herald*, addressed the convention upon the commercial aspects of the industry. In closing, Mr. Wickson made the following reference to a subject of great importance, both to honey producers and consumers. He said:

Doubtless one of the most vital questions connected with the marketing of honey is called forth by the effort, which is now being made by unprincipaled men, to sell the people that which is not honey. The article which they falsely offer as honey is very inferior, and ono who is acquainted with the genuine article would not be misled by it, even if it had a honey label on the exterior and a comb inside. But the very ignorance of the people generally of what good honey is, affords an opportunity for the introduction of this spurious article. It is in the hands of shrewd, unscrupulous men, and they spare no effort in pushing it forward, because there is great profit involved in it. As it now appears, the people will become educated in bad honey much faster than in the genuine delicious product of the bee. This will be fatal not only because it will supplant the legitimate demand for the real article, but because of its inferiority it will lead them to look with aversion upon the very name. A land flowing with milk and glucose would not have led the Israelites through the wilderness nor will a copious dosing with glucose lead modern people to esteem very highly the historic sweets of Canaan. The whole matter is exceedingly unfortunate not to say criminal, and bee-keepers should prepare to meet and battle against its advance at every point. It seems to me no stronger showing could be made than by securing an accurate exhibition of the fraud, such as a skillful chemist might make by ascertaining the exact difference between the genuine product of the bee and this substance which can be artificially produced from a number of worthless sources. So long as the article they offer is not positively harmful. I can not see that there is any opportunity to meet it with a prohibitory law, but if there is any virtue in efforts to inform people of the imposition practiced upon them: if there is any effect in a square, generous exposure of these gentlemen, let them have it at the hand of this association which is formed in the interest of the legitimate production and in the promotion of a growing agricultural industry.

I think this convention owes it to the industry to take immediate steps to meet the advance of this specious fraud. First, we should know more about what it is and in what respect the artificial differs from the genuine. It has come upon us suddenly. It seems to me that we could act more wisely after gaining fuller information. I would suggest, Mr. President, that first this convention adopt some expression of a general nature denouncing the attempt to defraud and calling upon people to beware of being imposed upon. Then I would suggest that a committee of your leading bee-keepers be appointed to study the question during the coming year, to gain all possible information concerning its exact quality of material, and who is engaged in spreading it over the country, In order that next year, after listening to a full report of the committee, we may be prepared to act intelligently and effectively against the imposition in such way as the wisdom of the convention may indicate.

Upon motion of Mr. Nellis, the association heartily approved the action taken by the North American Bee-Keepers' Society concerning the introduction of spurious honey. After much discussion and upon motion of Mr. Alexander, the following gentleman were appointed to present the fact of adulteration to the Legislature, and ask that an act be passed requiring a label, "pure honey," to be placed upon all packages of the genuine article, and making it a misdemeanor to affix the name to a spurious article. The committee are as follows: J. E. Hetherington, J. H. Nellis, G. G. Dains, M. Quinby, E. J. Wickson.

A short discussion concerning wintering bees ensued. Mr. Root would winter bees in a place where they would be as free as possible from out-door influences. The temperature should be as little below 50 degrees as possible. There should be perfect quiet.

A. L. Fish—I built a bee house with an air chamber in the walls twelve inches wide. Overhead the space was packed with fine saw-dust and shavings. To overcome this I covered the floor with gravel and cement. I am not troubled with moisture as much as formerly, but still there is too much. I think some absorbent can be placed above to absorb this moisture as it rises. I think of trying a coating of loose straw. I can control temperature until June, if necessary; but how to get rid of the excess of moisture which comes from the exhalations of the bees has been a puzzle.

Mr. Bacon—I have used cut straw for this purpose with excellent results. It is contained in a box with a cloth bottom, and this rests over the frames in which the bees are.

Mr. Betsinger described a way he had devised of giving his bees a fly under glass. He built a bee house, in which each two hives sit in a little stall by themselves with a little space in front of each hive. The exterior of each stall is a little window, and about three times during the winter he admits the sunlight, and the bees take a fly in the stall. He intends next season to encase all his hives in the stalls. The cost of the house is a dollar a hive.

Mr. Bacon told of a hot-bed which he made in which to fly his bees. He had tried it once with one hive. The bees had a fly. They were left in the hot-bed all day and over night. Altogether, after having this long time in the air, there were found but three table-spoonfuls of dead bees. Mr. Bacon believes the hot-bed good for giving a hive which might have the dysentery a chance to fly and recover. He does not believe that it can be recommended as yet for general use.

AFTERNOON SESSION.

One of the most interesting exercises of the convention was the "question drawer," which was expounded by Mr. Van Deusen, with the aid of Capt. Hether-

ington and Mr. L. C. Root. These questions and replies are of such practical value to the bee-keeper that we print this part of the proceedings verbatim. Much discussion was intermingled, but nothing of importance was elicted aside from the answers as given here.

Question. Is there any profit in buckwheat honey? Answer. Yes.

Q. Can brood be reared successfully in March and April? A. It is best to have no brood started until the weather is sufficiently warm and settled to enable them to start a full brood. The presence of a sufficient amount of pollen must be assured.

Q. What effect has the shape and size of the hive on freezing or on the amount of honey stored? A. Very little provided they have plenty of accessible room and the proper temperature is maintained in the hive.

Q. The best mode of caring for bees after they are set out in spring and before the honey harvest? A. Feed and keep warm.

Q. Will bees store enough more honey in boxes with communications from box to box to pay the extra trouble, than to have the boxes separate? A. Yes, in small boxes, but not in large.

Q. How many swarms should be kept in one yard? A. This depends upon the quantity of honey-producing plants; from 50 to 100 swarms.

Q. What is the best size of the brood department? A. Let it vary according to the quantity of bees.

Q. About what amount of honey is sold in New York city, yearly? A.—About 400,000 lbs.

Q. What is the most suitable package to put extracted honey in for market? A. This depends upon the market in which it is to be sold. In some cases it sells best in bulk or by the pound net weight; in other cases in glass jars.

Q. What is the proper thickness for a single comb in a box? A. 2 to 2¼ inches.

Q. How near to the ground ought hives to be placed during the summer. A. 4 or 5 inches.

Q. Will using the extractor on comb containing eggs or larvæ produce any injury; if so, at what time most? A.—There is no injury unless larvæ are thrown from the cells by too rapid motion.

Q. Is it advisable to undertake to Italianize your apiary when you are surrounded by black bees? A. It certainly is, if in a locality that produces much white honey.

Q. How long from the time the eggs are deposited in worker's cells before it cannot be changed to a queen cell? A.—Would not use it older than the third day after hatching.

Q. If a queen's wing is clipped about half off by a trusty, experienced hand, is there any injury; if any, what, and in what way? A. There is no injury.

Q. Making an examination of my stocks in January, I found some stocks from which the honey was leaking. What is the reason? A. This condition is found only in hives that have been so exposed to the cold as to crack the combs with frost—or in hives that are so poorly ventilated as to retain the moisture and sour the honey.

A long paper was read by Rev. S. P. Lander, of Clinton, to refute the popular belief that bees do injury to fruit. Mr. Lander has raised grapes and kept bees, and after years of observation, he is sure a bee never attacks a sound fruit. Bees do not bite into fruits or blossoms to get the juices. If they did the hive would be enriched with honey of the honeysuckle, and some other similar plants from which full drops of honey might be gained if the bee could bite into it. Mr. Lander took issue with several newspapers in which were statements that bees destroy grapes, pointing out many inaccuracies in the statement, and throwing a strong suspicion of falsity upon them. The speaker alluded to Prof. Riley's recomendation that milk-weed be planted to rid buckwheat fields of bees. Mr. Lander thought if any man was fool enough to cumber up his land with milk-weeds, for the sake of killing his neighbor's bees, the bees could stand it if he could. The idea that bees destroy the buckwheat crop, Mr. Lander has considered and watched the growth of the grain and the behavior of the bee, and is convinced there is no truth in it.

After some general discussion, the convention adjourned to meet in Rome, N. Y., next winter, at the call of the executive committee. This year's meetings have been a great success, and have been enjoyed by all present.

All of the discussion of the evening meeting and much that occured during the regular sessions, has not been reported.

The following table will be of interest to all bee-keepers. The information was collected by Secretary Nellis. The whole seasons' operations, and a summary of the methods employed by each bee-keeper, are thus condensed into a line of type, and the records will reward a careful study and comparison.

NAMES.	SUCCESS IN WINTERING. No. of Stocks. Fall, 1873.	No. of Stocks. Spring, 1874.	Condition in spring	Where Wintered.	SUCCESS OF THE SEASON'S OPERATIONS. No. of Stocks. Spring, 1874.	Fall, 1874.	In fall. Italians.	In fall. Blacks.	Kind of Hive.	Amt. honey produced. Box.	Extracted.	Amount of Wax.	Extra Queens Reared.	Principal sources from which the honey was gathered.	Average value of the honey season.	Amt. of sugar fed in fall.
J. Hoffman	60	60	g*	Cellar, 36 †	60	105	105	....	10 frames, 11x13	4,500	350			White clover and basswood	Average	200
H. N. Waters	42	25	w	" 38	25	42	6	36	7 " 8x17½	1,200	50	5		do. do.	Poor	
J. A. Burdick	21	17	w	House, 35	17	31	31	....	8 " 12½x12½	65	943	5		do. do.	Average	
R. Bacon	61	59	m	" 38	63	134	....	134	8 " 11x14¾	2,455	506	20		do. do.	do.	
J. H. Nellis	43	20	w	Cellar, 37	20	37	38	....	8 " 10½x18	560	775	33	36	do. do.	Good	15
John Floyd	56	55	g	" 43	55	66	....	66	8 " 11⅞x14⅞	2,010	380	3		do. do.	Average	
L. C. Root	....	....	g	" 45	100	121	50	....	8 " 10x18½	8,000	7,271	75		Chiefly basswood	do.	230
Wm. Miller	8	6	g	Basement	6	16	....	16	Box	100				White clover and basswood.	do.	
S. & E. W. Alexander	60	57	w	Cellar, 35	57	112	....	112	8 frames, 12x12	1,800	2,150			do.	do.	
J. Countryman	30	28	g	" 47	28	48	....	48	Box	100				do. and basswood.	Poor	
C. D. Jones	25	25	g	" 42	25	30	18	12	10 frames, 12x13	1,300	300			do. buckwheat	Average	
A. H. Root	18	18	g	Out doors	18	29	hyb	....	8 " 10x15½	1 111	712	20		do. basswood.	Good	
L. Baird	27	27	g	Cellar, 40	24	34	21	hyb	10 " 8¼x16¾	2,000	600	8		do. buckwheat	Average	
G. H. Byrns	....	....	....	....	20	34	mix	....	10 " 8½x18		1,300			Basswood	Good	
S. P. Landers	27	27	g	Out doors	35	62	"	....	9 " 14x12	230				White clover and basswood.	Poor	50
David Klock	97	35	w	Cellar, 34	35	87		87	Box	800		28		Raspberry do. do.	Average	
Jerome B. Tuttle	60	60	m	"	50	103	mix	....	"	250				Chiefly basswood	do.	
E. D. Clark	....	....	....	....	4	16	....	16	10 frames 17x14¼	100				White clover and basswood.	do.	75
J. Z. Brown	15	9	w	Cellar	2	5	..	5	13 " 10½x10½					do. do.	do.	
N. N. Betsinger	99	94	m	Out doors	78	155	155	..	8 " 9x14¼	6,400			25	Basswood and teasel	do.	
M. H. Tenant	42	37	g	House, 44	30	50	....	50	8 " 17x10	2,566		25		White clover and basswood.	do.	
I. L. Schofield	40	38	m	Cellar, 39	35	50	50	....	10 " 8¼x17	3,000	400		40	do.	do.	
F. H. Gates	25	20	m	" 40	20	45	10	mix	8 " 10x16	1.000				Clover, basswood & buckw't	Poor	
Martin West	25	25	m	" 38	35	65	mix	50	Box & 8 frames 10½x18.	1,700	300			do. and basswood	Average	
A. Tuttle	37	34	g	Out doors	34	70	"	....	9 frames 9x14¼	1,200				Basswood	do.	
C. C. Van Deusen	60	30	w	Cellar, 41, out doors	54	75	"	....	3 to 8 " 10¼x15 and 16	3,500	275	60		White clover and basswood	do.	25
N. C. Fisk	68	64	m	Cellar, 40	64	120.	....	120	Box	1,100				do.	Good	
A. L. Fish	15	15	w	House, 40	5	15	3	12	16 frames 12x13	60		10		W. clover, bassw'd & buck.	Average	
H. J. Hildreth	40	30	w	Upper chamber, 50	30	59	mix	....	6 to 8 " 10x18	700				White clover and basswood.	Poor	
A. M. Sawdie	3	3	g	Out doors	5	12	..	12	8 " 11x14	333				do. do.	Good	
W. E. Clark	8	6	w	Upper chamber	12	23	...	23	Box and 7 frames 12x16.	300		30		do. do.	Average	
D. L. Betsinger	5	5	m	Out doors	5	11	..	11	9 frames 12x16	200				do. do.	do.	
Lafayette Richards	14	14	g	Cellar, 40	14	12	....	12	Box	100				do. do.	Poor	
S. Joslin	....	....	....	....	2	5	....	5	"	70				do. do.	Average	
A. N. Comes	24	7	w	Out house	7	18	....	18	18 frames 11x10	150		11		do. alsike	Good	
J. H. Dudleston	91	82	g	Out doors	82	162	27	135	9 " 7x16¾	1,820		52		do. basswood.	Average	80
C. A. Shattuck	1	1	w	"	1	2	....	2	8 " 10x10	25				do. do.	do.	
A. W. Smith	....	....	....	....	2	2	1	1	8 " 10x18½	40	64			Basswood	do.	5
W. P. Wakelee	3	3	g	Out doors	3	7	....	7	Box	60				do. and fall flowers	Poor	
J. E. Hetherington	....	....	....	....	234	370	mix	....	8 frames 10½x16	19,907	3,150	450		do. buckwheat	Good	

*Explanation—*g*, good; *w*, weak, and *m*, moderate. †Degrees, Farenheit.

J. H. NELLIS, Secretary.

Comparative Merits of the Italian, Black, and Hybrid Bee.

I see in the AMERICAN BEE JOURNAL during the past year, many articles written on the superiority of the Italian bee for honey-gathering.

Bee-keepers' meetings throughout the country still continue to discuss this subject. In nearly all these writings and discussions, a large majority unite in claiming superiority as honey-gatherers for the Italian bee.

Having kept bees for the last ten years, more as a source of pleasure and pastime than for profit, I have been an impartial but not indifferent observer of the habits, disposition, and honey-gathering ability of the Italian, black, and hybrid bee.

As a result of my observation I would submit the following short statement.

During the ten years I have kept bees, I have had some of each of the above named varieties ; a larger portion however has always been pure Italian.

The Italian bee is superior to the Black in the following particulars, viz :

1st. In gentleness of disposition. 2nd. In graceful form, size, and color. 3d. In adhering to the combs when being handled. 4th. In *storing honey close around* and *in* the *common center* or brood nest. 5th. In gathering up and using wax, lying about the apiary. 6th. In *defending their hive against the encroachments of moth.*

The Black bee is superior to the Italian in the following particulars viz : 1st. In ability to withstand a greater degree of cold during winter. 2nd. In being less liable to abandon their hive in the spring on account of weakness of numbers. 3d. In maintaining their strength during an abundant honey-gathering. This is undoubtedly owing to the queen promptly depositing eggs in the cells as fast as the young bees emerge. 4th. In *building new combs* either in boxes or frames for surplus honey. 5th. *strong texture of wings* thereby enabling this member to last as long as the life of the bee. 6th. In rearing broods two or three weeks later in the fall ; thus enabling them the better to get through the winter.

As the Hybrid partakes more or less of the Italian or the Black, so will the characteristics of the one or the other as above enumerated be manifest.

Hybrids that I regard as the best in my apiary, are descended from Black mothers; and were obtained in this way : A Black queen was fertilized by an Italian drone. From the eggs of this queen were reared Hybrid queens and where these young queens became fertilized by Italian drones, I have Hybrid colonies the most satisfactory.

Therefore if we wish to secure in a colony, gentleness, beauty of form, size, color, etc., and good defenders against moth; ability to withstand cold, maintain their strength during bountiful honey-gathering, and *build combs* for surplus honey, secure these Hybrids. I obtained more than three times as much box honey from these, as I did from any of my pure Italians last season.

To obtain a large yield of surplus honey from the Italians, the extractor *must* be used.

They *will not* build combs readily in boxes or frames, for the reception of surplus, but instead will deposit the honey, when the flow is abundant, in the brood combs and forstall the queen.

My Hybrids above described will build combs as readily as the Blacks, and give nearly as much box honey as the extractor will from the Italians.

My advise would be to any one wishing to secure *extracted* honey only, to keep pure Italians ; because they are the most agreable to handle, and this has to be done very often during the season in using the extractor.

If you want to obtain large amounts of surplus honey' partly in boxes and partly extracted, keep *the Hybrids.* (Second generation from a Black mother is best.)

If you want to secure box honey only, (a less quantity than you can obtain from the Hybrids,) and do not want to handle your bees often, and do not mind being frequently and unceremoniously stung when in the apiary, keep the Black bees.

Camargo, Ill. J. W. MCKINLEY.

Improved Breeding—Queen Raising, etc.

May it not be an important fact in the improved breeding of bees that more particular attention should be paid to *the proper manner of raising queens ;* and this brings up a question upon which I with many others would gladly be enlightened.

Has any of our numerous queen breeders observed any difference between queens raised from an old queen, say three or four years, and those raised from one in her first year. In looking over the various volumes of our old *Journal*, I see but little that has a direct bearing on the point. Among poultry breeders it is now pretty generally conceeded, that the largest and most healthy chickens are the product not of the pullet, but of the older hens. Such is contended also to be the case in

stock-raising, and even in the propagation of the different varieties of fruit, in fact many other and similar cases might be cited. Should this be an *established fact*, why should it be otherwise in queen raising?

It was my intention to have opened this question last season, with the hope of learning the views of careful and observing queen breeders. It was again brought to my mind by the re-perusal of a valuable article from the pen of the respected Langstroth, in Vol. 1, Page 92, AMERICAN BEE JOURNAL, (1861), as bearing directly on the question at issue. I will merely cite two instances which came under my observation in the season of 1873. I had a queen in her fourth year (the largest I have ever seen with one exception) which was so prolific, and her progency so industrious, that although she was a hybrid I concluded to breed from her. Not being satisfied with the drones in my own stocks, I took my nuclei to the apiary of a friend about two miles distant (Mr. J. E. Moore,) he having drones from an imported queen, there I bred a number of queens, crossing with Mr. M's drones, and in every instance they proved both prolific and easily handled, some of them even excelling the queen mother in point of prolificness and the markings of their worker progeny. This queen was a descendent of a queen I obtained of Mr. S. B. Parsons in 1861, (which fact called to mind the penning of this article, Mr. Langstroth having spoken of his Parson's queens) and while herself was quite dark her worker progeny were so well marked that they were pronounced by many bee keepers as pure, and some of her daughters were a beautiful orange color. As she had a curious history I may again refer to her.

Again, the same season (1873) I bred from a pure Italian queen the marking of whose bees I was much pleased with, (she being in her third year,) using the same precaution as to drones I had before observed, and with nearly similar results, the progeny of her queens were fully as industrious as these before spoken of, but no more easily handled, neither were her queens any more prolific than were those of the hybrid mother. The same season I bred from young Italian queens (in their first year) as I have in seasons before but I must say not with like satisfactory results.

The old and familiar adage may here be brought to mind "that two swallows never make a spring," therefore, the two favorable instances of breeding from old queens (I am not at all partial to four years but would say at least in the second or third year,) will not establish the truth of the theory of breeding only from old queens, but I ask in all candor, is it not enough by comparison of results to raise at least a doubt and open this question, if so, one object of my writing this article will at least have been attained, another, and the main object in view is to obtain the opinions or rather *the experience* of practical queen raisers on the subject. Can we not get the views of our Editors, Quinby, Alley, Dadant, Grimm, or indeed many others whose experience would be of great importance in the premises.

No one, I presume, will deny the assertion that to become a successful bee-keeper, to any considerable extent, one should be able to raise at least the queens he uses in his own apiary, if for no other reason than to have them just at the time they are wanted. If so, how shall he breed them? If there is any thing of advantage in the position we have taken it should be known. If it is only an idea, and a mistaken one at that, the sooner it is properly met and controverted the better for all concerned. But as I have already encroached too much upon space which might be more profitably occupied by others, I will close this already too extended communication. "R."

Beaver, Penn., Feb'y 24, 1875.

NOTE.—Since writing the above I have received Mr. Herbert A. Burch's "money in the apiary" in which I perceive he assumes the same position I have taken on the queen raising question.

For the American Bee Journal.

Wintering Bees.

I noticed in the JOURNAL an inquiry from C. D. Hubbard for Mr. Bidwell's, *new method of wintering bees*. Now I do not know what method Mr. Bidwell has, but after three years trial of my present method I am full satisfied it is just what I want. I have kept from thirty to forty stands of bees and have not lost a swarm from freezing, in the manner I am about to mention, and I have talked with others, and all have met with the same result. The beauty of it is, that it is the least trouble of any method I have ever tried, and affords the greatest safety to bees in wintering. It avoids the lugging up and down cellar and the moulding of the comb. It avoids the packing in straw and like material, in the various methods resorted to, to keep them from freezing, my present method will leave them on their summer stands all winter with perfect safety. This is done by a peculiar construction of the hives.

The hive is constructed with double

walls and an air chamber between, filled with straw, and the top and sides so constructed as to allow all moisture arising from the bees to escape, and at the same time keep the cold out. This keeps the bees warm and dry, and consequently lively and vigorous, to resist the inroads of insects in spring. The manner of its construction readily meets the approval of one's reason. But it will also convince by the best of all reasoning, *actual experience*. This hive has not been brought before the public as fast as it ought, owing to the poverty of the inventor not being able to properly advertise it. But if any of the readers of the BEE JOURNAL wants further information concerning it, they can obtain it by addressing Keyes & Finn, Clyde, Jasper Co. Iowa.

Marseilles, Ill. A. F. WALBRIDGE.

For the American Bee Journal.

Stray Thoughts.

At our convention, I failed to get up the interest on some points that I wished. The question of wintering was somewhat discussed, but we failed to agree half as well on that point as did that "Dozen of the same ilk" of Berlin, Wis. They agreed at least, that 45 degrees is about the right temperature to keep bees in winter. That agrees with my views already expressed. Many look at the surface of things only, and get the habit of deciding without due consideration. We do not get all the facts, which in time I hope we shall be enabled to. I wrote an essay on the subject, but did not get it ready for the press before cold weather. There had not been a winter since 1871 suited to throw more light on the subject than the present, either for or against my theory. In this section, not a day through Jan. and part of Dec. was warm enough for bees to fly. Much of the time below zero. From Feb. 7th to the 15th, there was but one morning above zero. Feb. 7th, 16 dg. below; 8th, 8 dg. below; 9th 8 dg. below; 10th, 12 dg. below; 11th a few degrees above; 12th 6 dg. below in morning and at sundown 14 dg; 13th 32 dg. below; 14th 16 dg. below; 15th 4 dg. below. Bees have withstood weather as cold as this in the open air without harm, when there have been warm days, either immediately before or after. But how they will withstand such a pull of two months, and the coldest at the least, we have yet to see.

One man from Saratoga Co., has just written me that his bees show signs of dysenterry now, 15th of Feb. If bees are lost in any section, I hope we shall get the temperature to which they have been exposed.

Another point in which we failed to get up the interest which I thought the importance of the subject demands is the fear of stings. I have worked some time for this without much progress. A few have got rid of the fear, and made bee-keepers. I cannot advise any one to keep bees that can think of nothing but stings, whenever he goes near them. Education on this subject should begin early. Teach children facts only, and perhaps the most disagreeable of these might be judiciously withheld, while the child is being trained in the methods of avoiding stings. I think I have helped some is this matter, in the smoker given to the public, even though my suggestions may not be fully carried out in regard to careful handling. Many persons are governed mostly by a desire to make money, and consequently are apt to attribute the same motive to the suggestion of others, hence my efforts to get people acquainted with bees are probably often thought to arise from a desire to sell my wares. I wish more persons having experience, would work in this field.

Could not bee-keeping be taught as a branch of practical education in some institutions, thus giving children a chance to receive the right kind of instruction. Perhaps Michigan would be central.

Standard frames is another point occupying considerable thought just now. I fear we shall never agree, because we have different interests. We have all heard of the old farmer who went to mill with wheat in one end of the bag, and a stone in the other, to balance when it was thrown across the horses back. He had done it, and his father had before him, and the method was sufficiently proved. Let us all look at it. See how it is proved.

I will speak of size of frames: Mr. A. wants shallow frames. "He gets more honey, he has tried it." Mr. B. wants small ones for extracting. Mr. C. wants deep frames, "Bees winter better. They have such in Russia." Mr. D. likes them about square, say 12 inches. Many more want light frames because they are lighter to handle, &c., &c. Now it is not likely we shall all want frames square because D. does, for we probably have not the same reasons for it that he has. I am making surplus boxes 5x6 inches square. I can put six of them inside of one large frame, I don't want the frame any less. This and other advantages, counterbalanced the inconvenience of handling large frames. When one has a smaller frame and to him there are no counterbalancing advantages in a larger one, it seems to me to be very

silly to change. We need not expect one pound more of honey in one than the other, providing we avoid extremes, and give our bees comb enough, and the same protection. Have we not lost time enough in discussing this question and gained nothing. Let each one use what is most convenient in his circumstances. The convenience of manipulating any sized frame can be studied to advantage, and much gained by experience. This together with training bees and men into quiet, wintering, and many other things which we do not yet half understand, may be discovered with advantage.

St. Johnsville, N. Y. M. QUINBY.

For the American Bee Journal.

Wintering Bees.

I have tried different plans for wintering bees for the last seven years, and I think that some winters require different treatment for successful results. This winter I commenced early in the fall, by feeding and doubling up till they were both strong in colony and stores, keeping them on their summer stands, with no upward ventilation and but little below. If any of the fraternity have had good or bad results in that way, I would like to hear from them. It is not convenient with many of limited means to prepare a suitable repository for wintering, and must rely on other ways of management. Please inform me in regard to a suit commenced several years since by Olis & Langstroth against H. A. King, for infringement on the Langstroth bee hive. Has the case ever been settled by the parties, and how? I have not learned of the result. Let us hear; long live the combined Bee Journals.

H. W. WIXOM.

Mendota, Ill.

Sundry Items.

In my article page 61, last number of JOURNAL there is a typographical error that destroys the sense of the passage. In second paragraph sixth line, for *then cover*, read "then can."

I had better be a little more careful how I attack the masked Ku Klux, for some of them may be my old friends as 'Eccentric' appears to be. See page 64. This reminds me what happened one day many years ago when I was a boy ten years old. I went up stairs to dress in a hurry, and while in the act of putting on my vest I noticed a white sheet crawling through the door of the next room toward me; in a sudden fright and seeing nothing within reach for defence, I suddenly doubled my vest and gave it a blow with all my strength. The object suddenly rolled over, and out emerged the negro servant, rubbing his eyes and face, smarting from the blow I had given. Since then I could never stand masked objects.

I am sorry to hear reports of the bee disease again. I had hoped that from our close observations and experiments, during the past few years, we had got sight of a *remedy*, or at least a preventitive. But it now appears that our observation will go on with experiments a few years longer.

My bees to this day are all O. K. not a single stand *lost*. No disease of any sort. All healthy—only one weak stand and I fear that my bungling work with it last night, has destroyed it. Ah! I know your readers want to know what that bungling work was. So I will tell it for the warning of others, *to let bees alone at night*.

A few days ago I had put these bees in a nucleus with five frames, so as to nurse them until they got stronger, as they had a fine queen that I wished to save. Last night it began to turn cold and I had forgotten to take them in before dark; so went out with a candle to take them in but the wind would not allow the carrying of the candle. So I thought I would risk it in the dark, but I had hardly picked up the nucleus and proceeded three steps before *down went all in a mass*, breaking every comb out of the frames. I then got a light and got the bees back, but found the queen almost dead. To-day, it being freezing, it is not prudent to open to see if I am minis a fine queen, for my attempt to carry bees in the dark. The cause of this stand getting so weak was, water leaking through top of hive before I was aware of it.

I would here say to all who don't know how I winter, that I use nothing but the quilts, and in some cases I stuff the caps with straw. I leave off the honey boards from many stands all winter. Thanks to J. Butler, of Jackson, Mich., for his grand honey board, I made several of them yesterday, after reading his article on page 57. I made my boxes just the size of honey board ¾ thick by 3 in. wide, light pine and tacked a piece of woolen blanket on the bottom, and after filling with bran, tack any sort of cloth on the top; but for winter use I think I would prefer wheat or clover chaff, or very dry saw dust. I think the frames would be much less trouble than the quilts. We need not put anything else besides these frames on; the quilts are not always enough covering for the bees. I have tried the manure hot-bed around hives, but saw no benefit from it. I think these box quilts will prove very serviceable. I forgot to say that I keep a high close board fence on the north and west end of my

apiary, that effectually brakes the force the wind.

I would here ask friend Dadant if Edward Uhle of Switzerland, is in Italy—if so then Uhle's queen according to him are pure Italians. I have never received a queen from Uhle that was not a hybrid. Nesbit, Winder, and a few othere got Hybrids of Uhle. I have had but two imported queens to suit me in every respect, I can rear better ones, but still I am in favor of importing, and would not do anything to discourage it. Friend Dadant may have imported good ones. There is rascality somewhere but I rather think it is all with the European bee-keepers, sending us hybrids when they could have sent pure Italians. Can it be that they are ignorant of the test of purity. I always take the three yellow band as the most acceptable test of purity.

Lowell, Ky. R. M. ARGO.

Adulteration of Honey.

Seeing a good deal of discussion in the Bee Journals on the adulteration of honey, and being quite extensively engaged in raising honey for market, both box and extracted, I thought perhaps a few words to the many readers of the BEE JOURNAL who are engaged in the Apiarian business, might not amiss.

In the first place, if bee-keepers who are engaged in raising honey for market will take a little more pains to create a home market, instead of shipping all they raise to Chicago and other cities, to honey dealers, to have it adulterated and make five or six pounds out of one of honey or even more than that, and then for these honey men to ship it back where it was raised and sell it at double the price paid for it, looks like making a good deal from the honey raisers. Let every one who raises honey next summer see that every groeery is well supplied with good box and extracted honey, and there will be no trouble in selling all the honey at home. If the grocers will not buy it, ask the liberty to place it in their store, which no one will object to; allow them a commission on all sales from 10 to 15 per cent and there will be no chance for it to be fixed up with glucose, starch, and slippery-elm bark &c. Congress should make a law governing the adulteration of all articles for family use, placing a heavy fine or imprisonment or both for adulterating anything. There is no country on the face of the globe where adulteration business is carried on as it is in the United States. All kinds of spices, baking powder and other things too numerous to mention are shamefully "fixed up."

I put into winter quarters 165 good stocks of Italians, all right; but the hardest time is to come. I hope to come out all right; it looks as if the parties who write for the BEE JOURNAL were ashamed to have their place of business known. Let every one give their address in full, so that we may know where they live. WM. URIE.

Aurora, Ill.

American Bee Journal.

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CEDAR RAPIDS, MAY, 1875. No. 5.

American Bee Journal.

W. F. CLARKE, } EDITORS.
MRS. E. S. TUPPER, }

Seasonable Hints.

In this month, it is often best, if rapid increase is desired, to divide colonies. If the bees have been encouraged in brood rearing by feeding, and the heat of the hive economized, the bees are strong now—whether the season be late or early. We do not find bees, managed as we advise, dependent on early seasons.

We would advise all whose colonies are strong, and who desire to increase numbers as fast as possible, to commence in this month making new colonies. We would not do it in such a way as to weaken any hive materially. A comb of brood may be taken from one, a comb containing stores from another, and bees from a third. If a queen can be provided for every newly made colony, or a queen cell nearly ready to hatch and empty comb is at hand, the increase may be very rapid and with no danger of failure.

Those who wish to start nucleus hives, can do it best in this month, in this latitude.

There are various ways of doing this. The best one is this: Take a good Italian queen from the hive to which she belongs and put her in some other hive, from which the queen has been removed; with the usual precautions.

The hive left queenless will at once build queen cells, and at this season of the year, a number may be expected. Leave the hive undisturbed until about the eighth day, then have in readiness several small hives each made to contain three or four frames, the same size as your large hives. Open your hive, ascertain how queen cells they are, and divide its contents among these small hives—putting in each a comb, containing at least one cell—more if you choose. Divide the brood combs and store combs among the small hives and if necessary supply one or more from other hives. Then take the old hive entirely away and set the small hives containing the frames of it close together where the old one stood, the entrance facing *the opposite way*. The bees disturbed by the unfamiliar appearance of things, will find the small hives, and as each has a cell and brood, they will soon settle to work. Care must be taken before night to see that each *small* hive has enough. If one has more than its share, change its place with that of a weaker one. You will then have two, three or four small hives in the place of one, and can keep them all the season rearing queens, or unite them again into one colony after they have served their purpose. There are other ways of starting a nucleus, which we will give hereafter.

Those who use surplus boxes will do well to put them on all strong colonies in this month; though in most localities, bees do better in them before June.

A strong colony of bees has been known to build one hundred square inches of comb in twenty-four hours; at that rate over sixty sheets of comb a foot square could be costructed in three months. The editor of the Annals of Bee Culture has had a report of a swarm that built nine sheets of comb ten by thirteen inches in ten days.

Office of the Iowa Board of Centennial Managers.

This is to certify that Mrs. Ellen Tupper of Des Moines Polk Co., being an expert in such articles as are enumerated in Group No. 34 of our Classification of Iowa Products, is duly appointed to act as Group Secretary in charge of her specialty, viz :

The Bee-Keeping Industry of the State, subject to such instructions as our Board may from time to time give in a written form.

Signed this 16th day of April 1875, and attested by the Seal of our Corporation.

ALEX. SHAW, Sec'y. S. H. MALLORY. President.

I, C. B. Carpenter, Governor of Iowa, hereby indorse the foregoing appointment, this 16th day of April 1875.

C. C. CARPENTER.

Centennial Exposition.

COMMENCING APRIL 19, AND ENDING OCT. 19, 1876.

The undersigned having been appointed, by the Iowa Board of Centennial Managers, Secretary of Group No, 34, aceepts the appointment with the hope that every bee-keeper in the State will aid her in the work, by preparing for the exhibition any hives, extracts, bees, queens, or anything pertaining to the industry within reach. Also specimens of all honey-producing plants and seeds thereof which may be found in any portion of the State of Iowa, for exhibition at the coming celebration of One Hundredth Anniversary of the Nation, to be held at Philadelphia, Pa., 1876, I have the honor to request your co-operation in completing this Group, by the preparation and contribution of articles properly belonging within the scope thereof.

Any aid or information will be cheerfully furnished on application. As the Secretary of this Group is also a member of the committee appointed by the National Bee-Keepers Association, applications from any part of the country will be in order.

All articles shipped to my care will be properly labeled and transmitted to the Exposition, under the care and direction of the State Board of Centennial Managers. Such articles as the individual exhibitor may desire can be shipped direct to the care of the Director General of the Exposition, Philadelphia, Pa., under such rules as the Director General may prescribe. All persons who desire to be exhibitors will be supplied with blank applications for space upon applying to the undersigned. Applications must be made to the Director General of the exposition. For the purpose of keeping a record of Iowa applications, they will be signed in duplicate, one of which will be forwarded to the Director General, Philadelphia, and one to the Secretary of Iowa State Board of Centenial Managers, Des Moines, Iowa.

Trusting that State and local pride will induce you to give us your hearty co-operation I shall expect, without further solicitation, to secure from you, on or before the 1st day of December, 1875, a specimen of such articles as above enumerated, all of which will be duly acknowledged, and ordinary care exercised ; but the loss of property by the accidents of transportation, by fine, or by the dispensations of Providence, will in no wise subject the undersigned to damages.

Respectfully,

ELLEN S. TUPPER.
Sec'y. Group 34.

Des Moines, Iowa.

From the Practical Farmer.

Uses of Wool in the Apiary.

For the last four years we have used *wool* quite largely for various purposes in our apiary. We use nothing else for stopping up our queen cages, rolling it for this purpose into a tight wad. The bees cannot gnaw it away, and seldom propolise it. We shut up all our nuclei, when first formed, with wool. It can be crowded into place in a moment, admits air, and is easily removed. If we wish for any purpose to shut up a hive, we use wool. In the working season, we keep one "pocket full of wool," and know nothing of the vexations we experienced when using wire-cloth. Occasionally a few bees are caught in the fibres of the wool, but they are for the most part very shy of it, and are quite indisposed to commit *felo de se*, by hanging themselves in its meshes. Robbers will very quickly retreat from a hive well wooled. If we use the words *to wool* and *unwool* a hive or nucleus, instead of to shut up or open the entrance, our readers will understand what we mean.

L. L. LANGSTROTH.

PERSONAL.—This heading, over my signature, may remind some, of my personals in the AMERICAN BEE JOURNAL in 1872. With no intention of reviving past animosities, I desire to say that soon after these personals appeared, I regretted some things in them. For the first time in my life, instead of a statement of facts with what seemed to me the necessary conclusions from them, I used bitter epithets and invectives. Coming from a man of my age and profession this was the less excusable. Perhaps

I never lost so good an opportunity of showing the best way of conducting such controversies as we deem necessary in defence of our rights.

About two years ago I personally expressed to Mr. H. A. King, my regret for the invidious comparisons in which I had indulged, and my intention of withdrawing them as publicly as they were made. Able again to use my pen, I am glad to carry out this intention. If my example has encouraged the acrimoniousness with which questions have been discused, and controversies carried on among American Bee Keepers, I hope this personal may contribute somewhat to soften such needless asperities.

April 23rd, 1875. L. L. LANGSTROTH.

Voices from Among the Hives.

H. GOODLANDER, Leesburg, Ind, writes; "Bees can be wintered just as safely, and more easily than any other stock. The material from which a hive is made, has a great influence on the health of the bee."

ELIAS HERSHEY, Leaman Place, Pa., writes; "I wintered 27 stands out of doors, without protection, except blankets on top of frames, and they all came out strong, and are ready for work as soon as the blossoms come."

R. R. MURPHY, Fulton, Ill., writes; "About March 20th, some one sent me a registered letter, but the Post Office was burglarized on the 25th. The safe blown open, and the building fired. Nothing was saved. This is the reason why I have not been able to answer that letter."

JOHN DIVEKEY, Aurora, Ill., writes; "I put my bees—43 swarms—in a basement on the 15th of Nov. They came out all strong and healthy about the middle of March without loss. They had no flight for 4 months. They were carrying natural Pollen on the 4th of April. The winter here was very severe, but the opening of Spring is exceedingly favorable. Long may your valuable Bee Journal live and prosper."

Dr. N. P. ALLEN, Smith's Grove, Ky., writes; "I have succeeded in wintering my bees in Langstroth hive on summer stands without losing a single stock. My bees are in fine condition and have been gathering from the fruit blossoms for the last week. I had eleven in top story, one week ago. I have four new idea hives. I like them very much. I see by the Journal that they are not so regarded by some, but my experience is that we can raise more bees by inserting empty comb in the center of brood-nest. Can enlarge the brood-nest to double the size, it is ordinary, and that they will come out in the spring with more bees than the Langstroth hive, and with more honey. I hope to be able to make a good report of this season's operations."

H. M. NOBLE, Mount Pleasant, Iowa, writes: "My bees have wintered better than for the past three winters. I had 20 swarms last fall. I put 5 of the poorest in a cave and one died. I put 15 in the cellar, and as some of them got the dysentery I made a box 3½ ft long and put a window sash in one end, and one on the top, leaving one of the sash that I could open so that I could put my arms in and take off the quilt or honey board. I took some of the frames out and set them on the out side of the hive and cleaned out the dead bees, &c. The most of my bees came through the winter healthy. I got a queen one year ago last July; said to be from an imported mother. I think she is a regular Egyptian from what I have read about them. They have the grit; they work well, breed well, and sting like a demon."

JAS. B. WILSON, Des Moines, Iowa writes: "The winter that has just passed, has been a very hard one in Iowa. I had 4 colonies of bees to go into winter quarters last fall. My bees have been on their summer stands for the past 4 winters, and I have not lost any by disease or freezing, during that time. During the winter, any day that the sun shined or was a little warmer than other days, they would fly out as in summer.

I have not had to feed them this winter or spring, as they laid up enough feed in the lower combs for their own use during the whole winter. I have used the "Finn Porus Wall Hive," ever since I commenced keeping bees. I am not afraid to recommend it to apiarians, as the only one that their bees can be safe in, during the summer or winter. Eace colony is so strong in the spring and summer that moths or robbers dare not venture near them."

WM. H. S. GROUT, Poland Center, N. Y., writes:—"The following is what I have done the past season with five, 32 (Kidder) frame Gallup hives and Italian bees:

No.	May 30.	June 11.	June 21.	June 27.	July 3.	July 9.	July 18.	July 25.	Aug. 4.	Total per Hive.
1	7¼	3¾	20¼	31½	35¼	53	52½	73	27½	304
2	7½	3½	12¼	26¾	37	36½	34	60	24½	242
3	6¼	4¼	18¼	32¼	43¼	44	31	90	27	296½
4	0	2	16	23¾	19¼	48	38	65	18	229¼
5	6	4	19	44¾	45¼	43½	35	60	13	270½
T.	27	17½	85¾	150	180	225	190	348	110	1,342
	Spring Honey.		Raspberry and Clover.				Basswood.			

Average yield per hive, 268 2-5 lbs.

I think the Gallup hive is just the thing to work bees in, for extracted honey. It is more convenient than two-story hives, and I think will yield better. When you get all the light honey, you have swarms that will gather enough fall honey to winter on, and strong enough to winter on their summer stands. At least that is my experience. Mine having gathered enough for winter for the past three years. The supply is principally from smart-weed. The long hives are *not* humbug, practically, if my experience amounts to anything; and I believe that I can get more honey from them than I can from the same number of combs in small hives. If 'Eccentric' will try them in a good season he may think better of them, and conclude that they are not such a humbug after all. He should remember that strong swarms gather the honey, and stand a better chance to winter than if they were divided up."

ED. WELLINGTON, Rivertown, Iowa, writes:—"Our long and severe winter is now past. The bee-keeper now knows how many of his stocks of bees has been consumed by it. I came out better with mine than I expected, and as good as the

most of my neighbors. I lost two very light stocks that only had a pint of bees or less; the loss of which I lay to not having upward ventilation—and another lately. We hsd a fine warm spell. The bees flew finely, then came a severe cold snap, which lasted a week, when it again turned warm. I found one of my weak stocks had clustered in empty comb, away from their supplies, and had passed in their cheeks, and were dead. Making a total of 4 out of 23. Those that I had down 5 feet in the ground covered over with boards and straw, froze as bad as those that I had on top of the ground surrounded with straw. I know of 19 stocks that were wintered out doors, ten with tight honey boards on, and nine with quilts. The result was, that all with the quilts on were alive, and nine out of the ten that had on tight honey boards were dead. The other was a very strong stock in the fall, now it is very weak and troubled by robbers. My bees are now working finely on rye flour."

ARCHIBALD SMITH, Roswell, Cobb Co., Georgia, writes:—"I wrote you a few notes of experience. I *survived* the summer with two hives, large size, single story, movable frames, about a quart of bees in each, but little honey or comb, and had to take out much comb infested by moth. So little honey was made, that I had to feed; and looked into the hives the first week in January, when I found but from 4 to 6 lbs. honey in each. (The winter *here* has been mild enough to afford the bees a flight every week or two). About the 15th of June, I put a little sugar syrup into each hive, and soon finding great activity among the bees, I examined them and found that the bees from the larger hive were *robbing* the others; but the *peculiarity* was, that there was *no fighting* only great activity, but as there were no flowers, I looked closely until I found they were passing from hive to hive. I have continued to feed; but leave only one hive open at a time. The question here arises, and I want your readers to investigate; does not this account for much loss, in the spring, of swarms just put out of winter quarters, before there are flowers enough to supply the large demands of breeding? And does it not also account for the great increase of some hives?

JOHN HUGH MCDOWELL, Red Fork, Ark. writes: "Bees do well here, never die in winter from cold. I have had five natural swarms this spring from one hive, other hives all sent out more or less swarms. I would like to have a partner who understands bee culture, would *give* him a half interest. I use Adair's and Novice's hives."

ALFRED CHAPMAN, New Cumberland, W. Va., writes: "It has been exceedingly cold, but my bees have wintered very well on their summer stands. I have a shed roof over them and packed straw all around them, but in front. But they consumed much more honey than those in a cellar or house."

In the spring of 1871, we bought a farm remote from neighbors a mile or nearly so and on it was a swarm of bees which the owner did not care to remove, never having received any benefit from them, and in a year or so they were given to us. They were in an old decayed box hive, they swarmed the first season in my absence, a neighbor hived them in another old box hive, and in the following spring they were all dead.

We put our new swarms into an old fashioned hive, just to make trial and see if they would live and thrive. It was in June, I think. If they lived through the winter, we intended to get a moveable frame hive. Heard of Kidden, of Burlington, Last spring all were lively in both hives, and I sent for a patent hive, but they swarmed before it came to hand and I was obliged to put them in an improved, but still a box hive. I had not *learned* that I *must not* hive them on the stand. After they seemed quiet, I went out to see, and the hive was empty. Fortunately, they had gone home, instead of to the woods, as our swarm did the previous year. Now what shall we novices do next. My right hand was large enough for two, from four stings though gloved, bee-veiled, &c., for the little hive was full, and the weather hot. We studied and mustered courage to raise the hive and set another under it, and they accepted it and went to work in it. They built combs and it seemed to me as though were two separate families or swarms. The first year I had one ten pound box of honey, last year probably between forty and fifty lbs. of very nice honey. One box still remains in the chamber of one hive. They are in the open field protected partially by boards and pine boughs. MARY R. SANDERSON.

We send you the January JOURNAL and think you will find it just what you need. We print your letter without your leave, because we like to show others interested how one more went to work. You are on the right track and we hope will not loose your bees. We know if you read the JOURNAL you will learn how to manage them so as not to dread their sting, but on the contrary, will enjoy working with them.

Your bees that "went home" did not do so because "you hived them on the stand," but they lost their queen and therefore returned to their old hive. Putting another hive under the old one, was the best thing you could do under the circumstances.

☞ We have a lot of Adair's Annals of Bee Culture for 1870 slightly damaged, on hand—which we will sell for 10 cents each, Postage 4 cents.

☞ The Southern Ky., Bee-Keepers' Association will meet at the residence of R. A. Alexander, on Monday the 19th of May next, and all persons interested in the culture of the honey-bee are invited to be present. We hope some of our Northern Brethren who are posted in Scientific Bee-Culture will attend or send us communications, bee-hives, honey-boxes, &c., for exhibition. They will be cared for and put upon exhibition by the President.

H. W. SANDERS, Secretary. DR. N. P. ALLEN. President.

Correspondence.

Our Plan of Wintering.

As many of our Bee Keeping friends in different parts of our country are in many cases, yearly being made sorrowful through the sad inroads made upon their pets—the beautiful Italians—and we, having been *blessed* by a course of management, which has not only given us our number of colonies in full, in the beginning of spring, in good shape, but has carried them safely through the *severe* trial put upon them, by our cold and backward springs, of which so many have cause to remember, and hoping to benefit some one or more of our suffering friends, we submit our plan of proceedure, to-wit:

In the first place, our bees are wintered in the cellar, under the main part of the house, over which there is a fire but very few times during winter. Cellar 18x22, in clay; bee room, 9x12, partitioned off in one corner, between joists over-head we have stuffed with straw, held in place by a few lath tacked on, the partitioned side is also studded and packed with straw in same manner, while one side and end are stone wall, over all the portion stuffed with straw, we have tacked a covering of building paper, shelves arranged around the sides and one end, none coming *nearer* than *two* feet of cellar-bottom, we thus, you will see, have provided an absorbant, by which all dampness is absorbed. As a consequence, our rooms are as dry as a flint. Here let us say, were we going to arrange *an other room* in the cellar, for bees, would manage to have as *little* of the *stone-wall* in it as possible, for we notice, is there an uneasy colony, or one the least inclined to be diseased, or one weaker than the average in Spring 'tis sure to be, or have come from the stone-wall side, and whenever we were compelled to have a portion of it, would arrange to not let our hives come nearer than 12 to 18 inches. So much for cellars.

About 10th to 15th of Sept, or immediately after buckwheat season closes, which winds up the honey season with us. (During the flow of fall honey, should you not be sure your bees would store enough for their winter's use, do not put off supplying them with a safe amount, either honey or syrup, later than above date as the earlier they get their stores, the sooner will they cap themselves and as a consequence the better will they winter.) We carefully examine each stock and estimate their stores and if any are short, immediately feed them on Coffee A. sugar syrup made 20 pounds to the gallon of water, until they have from 20 to 30 lbs. stores each, according to strength of colony. They are then left to themselves, to be as quiet as may be. As the cool nights of last Sept. and Oct. come on, we contract the entrance to keep them warm. Early in Oct., choosing a day in which the bees are flying lively, we open a hive and set frames in an empty one previously provided for the purpose, then proceed to tack a quilt (made of sheeting lined with a thin layer of batting, quilts made for summer use,) on each of the two sides of the hive, doubling over and to the inside, at top of hive, sufficient of the quilt to let it just reach bottom on back side, and elevated enough on front to allow the bees free use of entrance, use three 8 oz. tacks at top and one at bottom, driving only half way in, so they may be easily removed in taking off quilts. Your hive is now ready for the bees, which return, and when returning examine and see if they have as many as two empty combs in center of hive, if not supply them, placing a frame of honey or syrup between them. If they have unsealed stores, see that they are placed nearest the bees and the sealed removed toward end of hive, by this means the unsealed stores are first used up and you will have no soured stores to give your bees that fatal disease in spring, known as dysentery. Spread combs a little in center of hive, about where clustering is, and if necessary so to do, remove 1 to 3 frames, by a half inch strip across the top of frame and place on quilt, and your bees are ready to let alone, until time of setting away. You will see upon replacing bees in hive, after lining, that the frames do not go to place as easily as before, but by placing one end in position you can easily bring other to place, when you will find your frames are as firmly held to place as though made close fitting. By this process of lining, we not only do away with that great objection to frame hives for winter use, the dead air space around frames, chilling bees and combs, but we enclose our bees in a nice warm nest, surrounded with material which absorbs all dampness and keeps them as dry as can be. The first cold snap in Nov., we prepare to set them in winter quarters by setting them off bottom board, and cleaning that of all litter, and placing a frame, made of inch stuff, in square, on bottom board, then place, have back resting on the frame, take up bottom brood and gently carry them to their place in cellar, setting brood and hive on shelf, close door, and above all let them alone,

only occasionally looking in at door to see that the rats or any thing else have disturbed quilts. Our cellar has no ventilation, except what it gets when members of the family go into it for vegetables, murcury usually ranges from 40° to 45°, perhaps for a short time, dropping once or twice in winter to 35 degrees. Well Mr. Editor we have "spun our say," out to a greater length than any idea of at start.

We trust you will pardon us if we have tried your patience, but having once been beginners ourselves we realize how necessary are the details to assist in understanding, after all, success depends more on attending to the details and giving your attention closely, than in a mere attention to general principles alone.

Believing as we do, that there is more of a science in successfully "springing" an apiary than in wintering same, we will, if you so desire, give you an item on our course of spring treatment.

Dundee, Ill. J. OATMAN & Co.

For the American Bee Journal.

Marketing Honey.

I find the best method of marketing my honey, both comb and extracted is to sell direct to the consumer or retail dealer, and not send to honey dealers for them to adulterate. Last year I put a half barrel of extracted and about 50 lbs of comb-honey into my spring wagon, and went among the consumers and sold to them at 12½ to 15 cts. per. lb. for extracted and 25 cts. for comb honey, and in a short time I sold all my extracted honey, and could have sold as much more in about a week, as the people found out that it was genuine honey and not glucose, sugar syrup, &c., with a little honey added, as is most of the so-called honey sent out by the city honey dealers, and besides the spurious honey is so high in price that it is beyond the reach of many people that would like honey.

If the producer would take a little time and trouble to furnish the consumer with the genuine honey at a moderate price, and thus get a market established, he will be surprised at the amount he could sell and not be swindled out of his money by honey dealers. Parties that only got a few pounds of me last year, are beginning to speak for 50 to 150 lbs of ext honey, and the prospect is that I cannot half supply the demand, another year, without an extraordinary yield of honey, and I will have 80 colonies (if I do not lose any) to commence the season with. By the producer selling his own honey at a reasonable price to the consumer, he will drive out all of the doctored honey, as the retail grocers will not handle it. One of our grocery men got some from Chicago, put up last year, and it soured on his hands. He says, no more Chicago honey for him, as he thinks the only honey in it was what little some small pieces of comb contained that was put in and pressed against the glass.

I sold of my own raising last year ext. honey 1700 lbs. comb honey 300 pounds, and comb honey I bought from a man six miles from me, 1000 pounds.

Fulton, Ill. R. R. MURPHY.

For the American Bee Journal.

Tall and Shallow Frames.

As Mr. R. J. Colburn takes exception to the shallow frame, in the March number, page 55, I would like to give some of my experience with tall and shallow frames. Mr. Colburn seems to reason a good deal from theory; but I find in practice, they pay but little attention to keeping brood in an exact circle, but have a wonderful adaptability to circumstances, and will place their brood where they can care for it and keep it warm the easiest. If stocks come out all strong, and keep so through the spring, they will probably breed up well enough in most any kind of hive, but if they get reduced down to a mere handful, as many did the last two seasons, that is what tests the shape of the frame for breeding up. The frames generally used here, takes a comb about 8 inches deep by 17 inches long, and we think that we don't want a comb that will breed up better in the spring; I have used the same frame stood on end, that is 17 inches deep, and found that when I got a stock reduced in those early in the season, I was completely swamped, no amount of cuddling would induce them to breed bees of any consequence, till hot weather and warm nights, they would have a little brood in the top end of two or three combs, and the only way they could spread their brood was to carry it downward, and they could not do that, as they were not numerous enough to carry the heat down. The same amount of brood and bees, started in the middle of the shallow frame, would increase to quite a nice colony, by the time the tall one would begin to do anything. In the long shallow frame, they will spread the brood each way, along the tops of two or three frames, and they have the heat with them, and will raise a great many more bees than they will in the tall one. With strong stocks, or in warm weather, the

tall comb will breed as many bees as the other probably.

I have never used a comb 12 by 12, but have used one 8 inches deep by 12, and found when bees were reduced in spring in that, comb 8 by 17 inches was far superior, from the fact, that bees will spread their brood along the top of a long comb, in weather, when they cannot be induced to spread it latterly across space into another comb. I am now using a comb 10 by 12 inches, and don't think it breeds up as well with weak stocks as the shallow frame, but can't tell why, unless it is because we leave out the lower cold strata entirely, leaving the hive so much warmer. My experience with pure Italians for box honey, corroborates Mr. Butler's exactly; on page 56. Can't our present bee, be improved by judicious selections in breeding? J. P. MOORE.

Binghamton, N. Y.

For the American Bee Journal.

Missouri Bee Killer, &c.

On page 36, Feb. No. present Vol., Mr. Sonne's article calls for observers to help him to awaken an interest of all bee-keepers to the importance of it. I have been acquainted with those insects for four or five years here in this section of Southwest Missouri, but never knew them in Central Indiana or the Alleghany Mountains. In Northern West Virginia, where I have formerly lived, I have seen them destroying many of my bees, and other insects and sometimes each other in the same manner. They are very stupid and dull in cool or rainy weather, and appear to be much more numerous in dry weather and when the sun shines very hot. This country seems to be a natural home for them and there are many of them here, and I think they are on the increase. How much they may interfere with our apiary in the future I cannot tell. I know they kill many of my bees but I cannot see that my colonies are weakened by them. My bees are kept at a good breeding stage all summer.

Mr. Sonne speaks of there being plenty of flowers, and that his bees would not bring honey in, now we have many times past had plenty of flowers for honey; but no honey, because the weather was not such that the flowers would secret honey. As yet, the cold winds and rains early in spring, when peach and early bloom comes are more of a drawback to me than the Missouri bee-killer.

My bees are in prime order on summer stands. E. LISTON.

Virgil City, Cedar Co., Mo.

For the American Bee Journal.

Honey Granulating.

In the February number, on page 36, Mr. Charles Dadant says: "That if they (the readers) on the market, from December to June, a so-called honey in liquid condition, they can, with absolute certainty, declare it a sophisticated honey, or at least a honey which, by boiling, or by pure mixture, has lost its character as a true and pure article."

That may be the case, where he lives or in any cold country, and cold may be the cause of honey granulating there, but it is not the case here. I am justified in thinking, that honey from certain flowers has a greater tendency to candy, than that from others, and possibly if both are extracted or strained together, it will all granulate within a short time. I bought in June last, one hundred stands of bees, and commenced to extract on the 27th of July. The honey of that extracting was gathered from white sage, sumac and other mountain flowers. After three or four weeks I extracted again. A great deal of that was gathered from a blue flower, which we here call flea weed, (it smells somewhat like vinegar, but rather strong and disagreeable), which came into bloom after the first extracting. Both lots were treated alike, sealed up in five gallon tin cans, placed out doors in the warm sunshine and stood there for several weeks. I use a great deal of honey myself, have for months, had a can of the first extracting open, only covered with a piece of thin paper to exclude flies, and it is now as liquid as when extracted, only thicker on account of lower temperature. Another can of the same lot, soddered up air-tight, was on examination a short time ago like the one mentioned, and a sample of the same in a two ounce bottle simply corked shows no signs whatever of granulating.

On the other hand, every drop of the second extracting became within two months as solid as lard. Cold could not have done it, for it was in the latter part of summer or beginning of fall, and it is even in winter seldom cold enough here, where I live, in the mouth of a cannon, to find in the morning a sheet of ice one sixteenth of an inch thick. I am therefore inclined to think, that the honey from certain flowers, and particularly from this flea weed, *will* granulate, while that from others *may* under certain circumstances do so, and that a mixture of both will granulate within a certain time, dependent on the proportion of the two kinds of honey.

I will only add, that I have five year's

experience in bee keeping, and that what I have stated in regard to last year holds good for the former four.

As people here prefer liquid honey to granulated, I had to melt all my honey of the last extracting.

On page 28, February number, you say: "There is an increasing demand there for honey." Please inform us, who will buy and at what price and in what size and kind of packages. We have always had trouble with our honey candying after it was shipped, and have had to take a considerably lower price on that account. Should be glad to find a market for the candied honey, which, as you say must be the pure article, although *our* liquid honey also is pure, even if remaining liquid for years.

WM. MUTH-RASMUSSEN.

Los Angelos, Cal., Feb. 22, '75.

For the American Bee Journal.

To Double the Capacity of Hives.

As the matter published in the January No. was designed simply as an explanation of a method, which I accidentally hit upon several years ago, of getting bees to build straight combs; I try to say, in addition, that the method consists in crowding the hive with bees, to double its capacity, (according to ordinary ideas), by means of a division board or, what is better, whenever possible, uniting swarms.

I fill the hive so full that in hot weather some bees will hang out the first night. I prefer the latter way of doing this, for several reasons: I secure not only straight, but mainly *worker* combs; avoid large increase of stocks; am apt to get a big lot of box honey; and avoid the great amount of labor and fussing, (mentioned in explanation published), which may be properly characterized as an application of the old laborious method to the new, necessitated by want of bees enough to properly apply the latter. I had observed that when I filled a hive by doubling, there was little trouble from drone comb in comparison with what there was, when I had to put in empty frames between others as guides, also I thought an increased tendency to build worker comb in boxes, and also a liability of the queen to lay drone comb in the boxes, both of which I attributed to the treatment mentioned, considering them as objections; the former, to be remedied by using only store or drone comb for guides in boxes, the latter, as the result of a want of drone comb below. But on reflection, I am inclined to think it may impart at least, be owing to my exceedingly shallow frames, they being but little over 5½ inches deep.

I had observed thus far, but had not thought, of this crowding, to get them to build worker combs exclusively, until I saw friend Dean's method of securing all worker combs, published in August No. of *Gleanings*, when it immediately occurred to me that his and my measures each corroborated the other. Novice saw the point, for in publishing, "How to secure straight combs everytime," he comments: "The pricipal is essentially the one friend Dean works on." *Gleanings*, Vol. 2, page 160. So it seems "the same stone kills both birds."

Douglass, Mich. H. HUDSON.

Size of Hives.

As to the size and shape of hives, I think we should be governed by the climate we live in. All must use their judgment in the matter. As for me, I like deep frames.

My 16 stands of bees are all right, on their summer stands, though one only had three cards last fall, and was very weak. Now it is as lively as any of them, having bees enough to cover one comb 12x13.

I can open any of my hives, without fear of stings without the aid of smoke or anything else. As no stranger could do this, I argue that my bees know me. Recently I gave my bees some flour, and stood in their course, about 10 rods off, they lit on me, and then went to the flour. I tried the same with a neighbor's bees, but they took no notice of me. If bees do not know their master, why this difference?

Wooster, Ohio. D. H. OGDEN.

For the American Bee Journal.

The Hive I Use.

Having experimented with boxes for comb honey for many years, I conclude the one I now use is the best that has come under my observation.

And if you think it of any value to the bee fraternity, you may give it an insertion in the JOURNAL.

I take thin lumber ½ or ⅝ inch thick, cut out two pieces four inches wide, 12½ long, than cut out nine slats 13½ long, and ⅞ wide, then nail the slats on one edge of each of the two sides, leaving a space between the slats of ½ inch. Then draw lines with a square from each slat across the two sides, and then nail on nine other slats opposite to the first. In putting on the last nine slats use an awl and

shoemaker's pegs, so that they can be taken off easily with the hand. Close the ends with slats ½ inch square with spaces as in top and bottom, put on with pegs also.

The vacancies should correspond with those of the frames. Boxes can be put on top of each other. One filled with honey and bees should be raised up, and the empty one slipped under and left until the bees work in the lower comb.

The advantages are: the conveniences of taking out the honey, and the perfect view of the whole inside without the use of glass. I had two boxes filled the last season 16 lbs. each, would have had more, but had only two swarms to start with, and that in the latter part of May.

W. W. MOORE.

Gillett's Grove, Clay Co., Iowa.

Reply to Dadant.

Dadant, in the March No. of the A. B. J., says: In the last convention of the N. B. K. A., a few bee-keepers have fired at the importation of bees. He says, A. Benedict was the first to begin the fire, and says, he (A. B) said that he supposed that there were hybrid bees in Italy. Upon reading this, I wrote to him (me) to know on what he had based his supposition. But in his answer he could give nothing definite. He had seen so called imported queens, that were undoubtedly impure; and then says, but for himself (meaning me) all the imported queens he had received were pure. Now if D., will read my letter again, he will see that I did not write him that all the imported queens I received were pure, but far from it. If I am any judge, I have received queens, imported ones, that produced one and two banded workers; and I have received queens that would produce queens, that if mated with black drones would produce a majority of three banded workers; and I have received queens, if there progeny mated with black drones they would produce a majority of black bees. Now, friend D., why is this? If one is pure, so is the other.

If I am not much mistaken, our friend D. in an article written a few years back, for one of the Bee Journals, claimed that there was a great difference in the color of the bees in different districts in Italy. He claimed that the dark ones were claimed to be the best bees; the light colored not so good. I sent friend Dadant some money a year or so ago, requesting him to procure me a queen that produced as light bees as could be found in Italy; but he failed to go, and sent back the money. The best and lightest colored bees I ever saw, were produced from one of six queens purchased of S. B. Parsons, Flushing, Long Island, several years ago. Parsons had imported a full colony from Italy; this colony was carried over the mountains on mens' shoulders. Undoubtedly this colony was selected for its bright color. The above queen produced workers almost white; the drones were of a dark red color; to stand a few paces from the hive and look at the bees, they appear almost white. And the drones look as if they were entirely black, but on close inspection, they were very glossy and redish in color.

These bees looked very singular, basking in the sunlight, in front of the hive, the bees so light and the drones so dark, they were readily distinguished, the one from the other. I have never seen but the one queen that procuced exactly such bees.

Now, my opinion is, that just such bees can be found in Italy. I am not down on importing bees. But I am in favor of a careful and judicious selection of the queen.

I hope friend Dadant will attend our convention, and if we say anything that is not right, he can there correct it, and tell us all about Italian bees.

AARON BENEDICT.

Bennington, Ohio.

For the American Bee Journal.

How to Make Hives.

For the benefit of those who do not know how to make bee hives, and who would rather make them than to buy, I will try to give directions as plain as I can.

In the first place get your lumber dressed on both sides to exactly $\frac{7}{8}$ of an inch. Use lumber just 12 inches wide for the hive, the frames should run from front to rear; the front and back boards are 12x16 with a rabbett $\frac{3}{8}$x$\frac{3}{4}$ across the ends, and $\frac{3}{8}$x$\frac{3}{4}$ across the top edge for the frames, the side boards are 12x15½, nail on a $\frac{3}{8}$ board for bottom and clamp, and one with a $\frac{7}{8}$ clamp [on top] for cover. Have an extra wide cover to shade the hive in hot weather, make a stand four inches high, with the front board slanting to form an alighting board or "down step."

The frames are 11x14, top and end bars are 7-16 inches thick, bottom ¼, top bar is 15$\frac{3}{8}$ long, ends 10¼, bottom 14 inches long.

For comb honey place a case six inches deep flat upon the hive, except that the end bars are only five inches long, of course the cover or honey board must be removed and placed upon the super.

Don't think of using extra rabbetts or bevels or quilts; its all nonsense, I think, except in Spring. Quilts or straw mats are then an advantage. For extracted honey use the ⅜ bottom in upper hive, or not, as you prefer. I prefer the board between sections. For comb honey, don't think of using boxes or a honey board below your comb, I and others have seen the folly of it in cold weather. Section frames for surplus are good, but they are more bother than the common surplus, so I think it better to discard them and never more think of them.

The above described hive can be made for $2.00, or cut ready to mail for $1.50 or less by the dozen. R. S. BECKTELL.

New Buffalo, Mich.

A Closing Word With Mrs. L. Harrison.

As an offensively personal article published by Mrs. L. Harrison, some time ago, in the *Prairie Farmer*, appears word for word, in the April number of the AMERICAN BEE JOURNAL, as a communication to the JOURNAL, I ask you, in single justice, to make room for a portion of my reply as published in the *Prairie Farmer*, as follows:

The ill-natured epithets and redundance of adjectives in your last week's issue, over the above named title, do not constitute argument. As to my logic, let me say to my profound logician-critic that to "put language into my mouth which I was never guilty of" is as she rightly interprets, to misquote me; to "otherwise" falsify "my statement," is to do so in her own language, without quotation marks. Further that "on that subject," (relation of honey bee to horticulture) is quite a different thing from "on that subject at the last meeting of the Illinois State Horticultural Society"—this last being her language, not mine. * * * I care not to waste your space in a war of words with Mrs. L. Harrison, and will simply say to her in conclusion that *were* she "a man," my pen would not be so guarded. As for her contempt, judging from both the matter and manner of her recent communications, I feel more honored by it than I should by her esteem.

The transactions of the Illinois State Horticultural Society, for 1874, which contains a report of the discussion which gave rise to this unpleasant controversy, are just published. I saw no proofs of this report which, with few exceptions, is as correct a statement of my remarks, as could well be made in so condensed a form; and those of your readers who can refer to it will judge for themselves whether Mrs. Harrison's communication in your February number was warranted or not.

In conclusion let me say to Mrs. H. that she is mistaken in supposing that I have any "spite" to vent against her or any one else. But when unjustly assailed and misrepresented, I am apt to defend myself, even against a lady—however much I may regret the occasion.

St. Louis, Mo. C. V. RILEY.

Foul Brood.

Having had some experience with this disease for the past five years, it occurred to me that my experiments might be of some value to others; I had noticed for several years, a few cells of foul brood, here and there in the combs, and had been in the habit of cutting them out, but was not aware at the time that it was foul brood, but now recognize it as the genuine disease in a mild form.

In the fall of 1870, the bees filled up the combs late in the season with watery honey, mostly from fireweed. Cold weather came on suddenly, and the bees were unable to cap it over. The result was, that most of the swarm had the dysentery, and were lost during the winter. Some may say that if they had been properly housed, they would have come out all right. This, I am inclined to doubt, as one of my neighbors lost fifty swarms in a house constructed for the purpose, when they had always done well before. In the spring the uncapped honey soured, and the pollen fermented as though yeast had been put into it. The combs were used the next season to increase the size of the hives, and became the seat of the disease, which was spread by changing combs, through all the swarms. The remedies resorted to this season, were to take away the combs most affected and replace with empty combs from the hives when the bees had died the winter previous. I learned in the operation, that while the first brood hatched in combs which had contained sound honey or fermented pollen was badly diseased; brood in combs that had been filled with capped honey was but slightly affected until the third set of eggs was hatched. All the honey was extracted from these combs before they were put into the hives. From two swarms which were badly diseased, the combs were all taken away, and the bees put into new hives, and treated as new swarms. One swarm was fed with honey extracted from the diseased combs, and at the end of four weeks, was found to be the worst diseased swarm in the apiary. There was not live brood enough to be worth saving, and the combs were again taken away, and the bees put into a clean hive as before, together with the bees that had hatched from the old combs. They were fed with sugar and water, to give them a start, and in the fall were examined and found free from any signs of disease. The other swarm from which the combs were taken, showed no signs of infection. The old combs with a few bees to take care of the healthy brood were left in the old hive. The badly diseased combs were destroyed as soon as the brood was hatched. Combs that were clean were left for the bees to store honey in. This swarm though not strong, stored a little over one hundred pounds of extracted honey. The bees were kept without a queen, and allowed to wear themselves out gathering honey, and as soon as they were so weak that there was danger of their being robbed, the combs were all taken away, honey extracted, and

combs destroyed. The few bees left were given to swarms, undergoing treatment, or destroyed as circumstances dictated.

The old swarms treated as new, this year, and the succeeding years, have come out free from infection with the one exception spoken of above. Unfortunately for my experiments both these swarms were lost the winter following, and I was left with none but the old stocks that had more or less foul brood in them. The next spring I kept the disease in check until swarming time, by vaporizing the combs with hyposulphite of soda. Then removed the combs and treated the same as the year before, with the exception of trying to cleans the cells as Dr. Abbee recommends, with an atomizer. It did not work to suit me, and I afterwards used a small bulb syringe which did the work easier. I found it a long and tedious job, to open and cleans the cells filled with putrid matter. It appeared to be effectual in all cases, except when there was a deposit of old pollen in the cells, which the bees would not clean out, and the brood raised on top of it would be infected. The most difficult work of all, was to clean out the cells where the larva had died and dried up in the cell, without being capped over. This dried up larva is the coffee colored deposit found on the botton board. The bees will clean them out after it is vaporized, but the disease does not appear to be entirely eradicated from them. The bees seldom uncap a cell filled with putrid matter. They make a small opening to see what the trouble is, and leave it in disgust. The amount of work attending the cleansing of the combs, and the uncertanty of the result, brought me to believe that there was no econemy in trying to save them. That it was better to keep the bees in the best of these old combs, without a queen, and get all the honey you could from them, and destroy all the combs in the fall. Since then I limited my operations to this idea. As soon as the brood was all hatched, the honey was extracted, the best or cleanest combs were vaporized with hyposulphite of soda, the hive washed with the same, making all as clean as possible. Whenever honey is extracted, the combs are vaporized and put back into the same hive until the honey season is over, or the bees are worn out. The combs not used, are melted into wax as soon as possible to make sure that no bees get to them. Too much care cannot be taken to prevent the spread of this disease. I should not handle healthy swarms after opening an infected one, or use any of the tools for that purpose. I am satisfied from feeding one swarm with the honey extracted from diseased combs, that it is almost sure to carry the infection with it. If I wished to experiment further with it, I should try soaking the combs in a solution of chloride of lime, and afterward cleans with an extractor as suggested by Dr. Abbee. We ought to be thankful to Dr. Prenss for his microscopic examinations and Dr. Abbee for remedies. I treated my hives to a bath of burning sulpher by making a fire on the ground with a few chips, placing hives over the fire one on top of the other, without any top or bottom board, the heat passing through the hives like a chimney. After they were well heated up, a handful of sulphor was thrown in and a cap or board put on the top to keep the fumes of sulphor in. I then cleaned up the hives, gave them two good coats of paint inside and out, and count them as good as new. All frames and honey boards that were worth saving, were baked in a stove oven, and put in order for use, confident that they are free from anything that will start the disease. I introduced the disease the second time, into my apiary with a swarm bought in the spring of 1873, and I am fully satisfied that in this case it was caused from fermented pollen, as these combs were the first affected and the only ones for some time. Had there been any disease in the hive the year previous, it could hardly have escaped my notice when the combs were transferred to frames.

By this treatment, I have as many healthy swarms at the close of the season, as I had diseased ones in the spring, beside the honey which the bees hatched from the diseased combs gather, which is largely in excess of what I had expected.

I have sometimes got a few boxes of honey from the old swarms treated as new, but am satisfied if the hive is well stored with honey, and the bees in good condition for winter.

One great problem to solve is, is there any danger to other apiaries in this way of managing the swarms?

My opinion is that after the honey has been extracted the second time, and the combs have had a second vaporizing, that the honey if taken to a healthy swarm would not carry the infection with it. I should be afraid to use the old combs for brood combs without further treatment, as the old pollen might still retain the seeds of the disease.

I have noticed that the swarms kept without a queen, cap a large portion of the honey with an oval cap like that over drone brood. This has been so universal that I suspect somiething wrong with the queen in any hive when I find honey so capped.

L. C. WHITING.

East Saginaw, Michigan.

Getting Honey in Boxes.

Paper read at the seventh annual session of the Michigan Bee-Keepers' Association, Dec. 16th and 17th, 1874.

At your request, I will give a brief discription of our way of making box-honey. Not, however, with the idea of instructing your association, or of influencing any one, who has had more experience. We haven't got it perfect yet by any means.

THE HIVE.

I haven't had experience enough with the side-box hive, to be able to recommend it for general use. If bees will swarm from them, as readily as from top-box hives, then we have our labor in vain, in making more expensive hives, and in putting on a greater number of boxes. Bees swarmed immoderately last season in this section, from all kinds of hives.

I can safely recommend the Langstroth hives for box-honey, as I have had experience in their use, and they are successfully used, and are the leading hive in this section. It is ten inches deep, with ten frames.

THE MANAGEMENT.

As we have but little basswood, we are obliged to manage our bees, so as to have honey stored in boxes, from white and alsike clover, tulip, &c., in the early part of the season, (otherwise, we should have no

white honey to sell, and the business would be unprofitable). To do this, we design to get our combs well stocked with brood, and our hives filled with bees, by the time that clover begins to yield honey. Then we keep all old stocks strong, put on the boxes, a full set of 12 at once, and when they get so crowded with bees, both the hive and boxes, that we think there is danger of their swarming, we take away a card or two of cutting brood and adhering bees, and replace with an empty comb, or an empty frame. The brood and bees drawn, form nuclei. With some stocks, the drawing will have to be repeated after a few days, while others don't seem to start work in the boxes until we put in an empty frame, and set them to making wax in the hive.

Those stocks that are building comb in the hive, will need to have their combs looked over, about once a week while the yield of honey lost, in order to cut out the drone comb, before the brood is fed in it, so as to have it nice and white for the boxes. It requires the exercise of some judgment, in drawing brood, as it is better not to draw any and let them swarm out, than to draw too soon, or too much. The amount of brood taken depends so much on the yield of honey, the condition of the hive, and the quantity and age of the brood on hand, that no special rules can be given, and each must learn from experience in his locality.

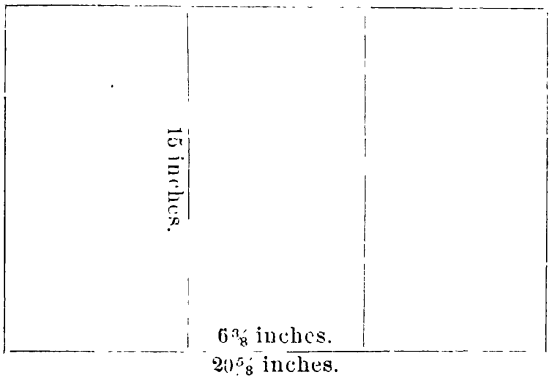
KEEP STOCKS STRONG.

Each old stock is kept strong, and the extractor is not used on any stock that is storing honey in boxes. If they are well shaded by large trees, and situated so as to have a free circulation of air around the hives, by raising these up a foot or so from the ground, and a little brood taken away from time to time, as they can spare it, they will trouble but little about swarming in seasons when the yield of honey is good.

THE BOX ARRANGEMENT.

We do away with the honey board entirely, in order to bring the boxes nearer to the brood, and to give more free access to them, than we could do through the honey board; we like the two-comb box best, 6⅜ inches long by 3¾ inches, comb space 5 inches high. We put twelve such boxes on a hive that measures 21¼ inches in length by 16 wide (outside measure), by using a rack or clamp in this form.

TOP VIEW.



Take stuff ⅜ inch thick, 2¾ inches wide, cut four pieces 15 inches long, and two pieces 20⅝ inches long, nail through the long pieces, into the ends of the short pieces, with finishing sixes, leaving the spaces 6⅜ inches plump, so the boxes will slip in easy, four boxes in each row; then take hoop iron, cut four pieces 15 inches long, and punch four holes in each, large enough for a lath nail, turn the rack over, and nail a piece of hoop iron on the bottom edge of each cross-piece, so as to support the boxes. The top of the hive should be planed down, until the bottom of the boxes come down within 3-16 of an inch of the frame. This rack will hold 9 three-comb boxes, or 18 one-comb boxes, or 12 two-comb. We prefer the latter, with three slits in the bottom of each box. The slits are ½ inch wide by 4⅜ inches long, one in the middle and one within ¼ inch of either side, leaving an inch of sound wood at each end for strength. There should be ⅛ of an inch side shake, to each row of boxes, for convenience in getting them out.

TIERING UP.

When the bees get the first tier of boxes full, and begin to seal up, and get it sealed up half way down or so, we raise them up and put a set of empty boxes under them, with slits in the top to correspond and guide combs in place. When the first set of boxes are nearly full, is the most critical time with us, as they are then crowded for room, and get the swarming fever in consequence. If the whole set are not ready at once, we would raise one row, or even one or two boxes if no more are ready; can give room by tiering up instead of drawing brood; use a rim to make the cover six inches deeper for each tier.

RISKS OF SWARMING.

In keeping all stocks very strong, we of course take some risks of swarming. One wing of each queen is clipped, so that there is no climbing of large trees, or going to the woods about it. We have found the following plan the most successful to quell the swarming fever after they attempt to swarm: Have saw-dust, or tan-bark around the hives, or else keep the grass cut very close, so as to find the queen readily when a swarm rushes out; pick up the queen and put her in a wire cage, and wad a piece of paper in the mouth of the cage to confine her till the swarm returns, then cover the old hive with a sheet or large cloth, to prevent the bees from entering it, and place an empty hive or box in front of it, in such a manner as to catch the swarm when it returns; lay the queen and cage down at the mouth of this hive, and when the bees begin to enter, liberate the queen, and they will go in more readily; when they have entered, remove the swarm to a new locality, a rod or two distant, in the shade if convenient; having swarmed they will adhere to the new location. Now remove the old hive a few feet to one side, and place a nucleus with an unhatched queen cell, or an empty nucleus hive, on the old stand; take off the boxes from the old hive, take out the brood combs, and brush off every bee remaining in the hive, into the nucleus. If the hive containing the new swarm, is the same size of the old one, we would put brood combs (as fast as we clear them of bees, of queen cells, and drone brood) directly into the swarm, and let them occupy it. The boxes should be cleared of bees also, and put on the swarm, and tiered up if any are ready. Now we have the bees sorted. We have a new swarm on a new stand, that is, we have all the bees that are favorable to the old queen with her, and have given them all the worker brood, and all the boxes, and we have got rid of all the bees that were raising queens. When we have

served them thus, we have found, that they generally resume work in the boxes, and make no further trouble about swarming for the season. In view of the condition of the honey markets, it looks as though box-honey would be superceded by small frames, as the exclusive honey dealers cut out a great deal of comb-honey, and put it up in jars with extracted honey. I believe small frames are well liked by consumers everywhere, but are not well liked by large grocers, where they deliver all goods to the consumer in wagons.

Binghamton, N. Y. J. P. MOORE.

For the American Bee Journal.

Patent Hives and Venders.

In reading the articles of some of your correspondents, one would almost be led to believe that patent rights on bee hives are and have been all humbugs and those owning or selling them the biggest swindlers outside the pale of law. Now let us carefully examine this subject and see if this business is wrong and deserving the condemnation of all honest apiarians. Is it anything against a worthy patent right, that some one has been made the dupe of sharpers and bought a useless article, perhaps, what purported to be a patented bee hive, when if they had subscribed for and read any one of our BEE JOURNALS, they would for half the money, been intelligently posted and proof against all humbugs in the shape of worthless bee hives.

Query: Does it detract from the merits of the old AMERICAN BEE JOURNAL, because its issues were copyrighted?

Are patent laws considered in all civilized countries so necessary to foster and encourage invention, but blots upon the Statute Books, which ought to be wiped out? Can any considerate person demur at their justness and hesitate to acknowledge their protecting influence in fostering improvement whether it be an intricate piece of mechanism, an agricultural implement or a movable comb frame bee-hive. Is Langstroth's work on the Hive and Honey-Bee of less value because it recommends a bee hive invented by its author, and explains the advantages of the movable comb frame? Do we think any the less of the teachings of this eminent apiarian because he presumed to obtain a patent upon the hive he had spent the best years of his life in devising to meet the wants of the apiary, and which added millions of pounds to the honey surplus of the country besides giving a new impetus to bee-keeping? Is not as quoted by Mrs. Tupper in her Essay for Agricultural Report "The laborer worthy of his hire." Have not patent hive men in bringing their hives to the notice of the public furnished advertisements for our journals, promoted bee-culture and helped to create an interest in this much neglected pursuit? Do not the articles written by the elderly gentleman, Mr. Jasper Hazen, though somewhat devoted to his pet theory "overstocking" infuse new life into bee-keeping and well repay an earnest perusal? Have not Mr. Hazen and Mr. Abbey demonstrated what may be done in the way of obtaining surplus honey from side storing hives, by piling boxes either at the side or ends of the frames?

Have not the frame of the American bee-hive introduced by Mr. H A. King, become a standard with some apiarians, as has the varied forms of the Langstroth frame, and who would dispense with their use for ten times what their rights cost them. What Mr. Harbeson has done to develop the culture in Calafornia, as demonstrated by his shipments of tons of honey from the Golden State is in beautiful contrast with the tableaux presented in the moving of his first swarms across the plains before the track of the iron horse had spanned the continent. Yet this same Harbison is, or was a patent right bee-hive man.

What is true in the above mentioned cases is the same with numerous other patented hives, each possessing more or less merit as skilfully handled by the operator having it in charge. In most cases a practical apiarian could take any of the movable comb frame hives now in use and be successful with them, whereas a tryo might fail with the best hive extant. Do we not see the hive invented and used by New York's venerable bee-keeper condemned by an Ohio "Novice" and yet read of a correspondent to his "gleanings" going through a yard of 60 Quinby hives in an almost incredibly short space of time for such an operation? And that New York's great honey raiser, Capt. Hetherington, of Cherry Valley, had gone to some thousands of dollary expense in changing his hives to this same (by Novice) condemned style. Who among your many readers would hesitate to purchase the right to make and use the perfect bee-hive (not yet invented.)

At present the hive best adapted to the attaining of surplus and successful wintering depends more upon the skill of the operator and not in the make of any particular style, though some may possess great advantages over others. In consideration of all these facts is it not more advisable to encourage improvement, trusting to our judgments to distinguish what is and what is not best for us to use and not frown upon or discard a worthy article, because the inventor has been to the expense of getting it patented.

Does it detract anything from the merit of a well made and painted hive, because you can get a non-patented simplicity for one dollar which in the estimation of many, would be dear at most any price. Does it look reasonable that one who has made a small fortune out of patented bee implements, prompted by a remorseful conscience should at this late day conclude that selling rights is wrong and advise bee-keepers "to invest no money in territory for patents of any kind." Yet in the same issue of his Magazine advertise for twenty-five cents to send directions for making the "International" which said directions sum up thus. "An ingenious mechanic might make a hive *nearly* correct from these directions; but we advise all to remit for a sample hive which we will send from the nearest factory." Probably a second attact of the above nature will lead to the publishing of these directions free but never include the sending of a sample hive. No one who has sent seventy-five cents for a much advertised bee-feeder and in return received a tin cup, worth about 15 or 20 cents, and which could be hired made at most any tinsmith's for 9 or 10 dollars per hundred will not be at all surprised at this change of conscience. Has this the look of a strictly con-

scientious move, or does it rather savor of a change in policy to create a larger demand for advertised wares perhaps at the expense of those who are selling patented articles. Another loudly proclaims that his wares are not patented, but when you think you could manufacture the metal corners cheaper than to send to Ohio for them and write for particulars, you receive in reply to your inquiries, that the corners are not patented, but the machine which stamps them out is, and costs in the neighborhood of $2.50; that you can manufacture for your own use, but not to sell. Generosity unparalelled: you can have the privilege of paying $2.50 for a patented machine to manufacture perhaps $20 worth of tins for your own use and then hold up, or find yourself brought before Uncle Sam's bar of justice, to answer for infringement of the patent laws. Oh, consistency thou art a jewel?" While exhibiting honey at the N. Y. State Fair, last fall, I had an opportunity to converse with many bee-keepers, and found representatives for most kinds of hives in general use, not one of whom complained of ever having been swindled in buying a patent bee-hive. My observation is that improved bee-keeping and patent hives have gone together and that we are pretty certain to find the old gum in use where the brimstone theory is still in vogue. I would in no way apologize for a hive or queen swindler, but do not believe in condemning the genuine because there is sometimes a counterfeit. We have this consolation that the Patent Laws do not compel us to use a patented article, consequently it it does not suit us, all we have to do is to let it alone.

The present demands the united action of those interested in promoting the interest of bee-culture as a broad field for occupation remains unoccupied, and those who are devoting time and money to the furtherance of this neglected industry are entitled to our encouragement, that they may succeed in devising means to secure more of the tons of liquid sweet which annually go to waste for want of gatherers. This secretion of honey which only takes place when atmospheric conditions are favorable, often vanishes with the disappearance of the morning dew and without plenty of laborers cannot be saved. The field is broad and open to all. There need be no clashing of weapons, for as a rule he who vends a hive will endeavor to introduce the best, as he has a reputation at stake and if he makes a mistake it will be an error of head rather than of heart. C. R. ISHAM.

Peoria, Wyoming Co., N. Y.

Enemies of the Bee.

I notice in the February JOURNAL an artical on "Bee Enemies," giving a discription of the Asilus family, and an account of their operations as bee-killers. Now we have an insect here called the mosquito hawk, that is very destructive to bees, and resembling the insect described in the article refered to, but is much larger, measuring two and a half inches and more in length. It, is no doubt of the same family, but being no entomologist, I cannot say. This "hawk" makes its appearance usually about the middle of June, and comes in numbers varying with the locust of Egypt, or grasshoppers of Kansas. For the first month or so, they are seen only at evening, near sun down, but as the season arrives, they operate to some extent the whole day; always turning out, however, in great numbers, in the evening. They seem to be always on the wing, except when devouring their prey. The air is filled with them, darting hither and thither swiftly, like bees swarming, and almost as dense.

They take the bees while on the wing and when settled on the hive, by pouncing on them, just as a chicken hawk does upon his prey, aud then light upon a perch, high up in a tree, if one is convenient.

In what way they operate on the bee in devouring it, or what part they eat, I have never been able to discover, from the fact that my apiary is in the midst of tall native oaks, to the limbs of which these cannibals resort to regale themselves on their captives. They all disappear about the first of September. From their great numbers and the length of time they operate, say three months, they must destroy millions of bees.

How to destroy these "Jayhawkers" or prevent their ravages, is what puzzles me. To knock down a few hundred with a bush, as you may easily do as they whiz past, does not seem to lessen the number, As McBeth said of the English: "The cry is, still they come." Let us hear from some of your *bug* men, on this mammoth asilus of the South. Last year was a very poor year for honey until September, when the bees commenced on the smart weed, and for five weeks they worked on it, gathering abundant winter supplies of the richest and most delicious honey. I never dreamed of that weed producing honey or being good for anything else before. It grows here in great profusion, and is certainly the most valuable honey-producing plant we have in this region. J. APPLEWHITE.

For the Ameaican Bee Journal.

How I Succeeded.

I promised in the July No. to report my success during the summer, with the High Presure Hive worked on the different plans proposed, viz: Hazens' Adair vs. Gallup, &c.

Well, after breeding up largely in the spring as I was able, *it being a very late* one, I arranged swarm No. 1, to work on Hazens' plan, and got 32 5 ℔.boxes imperfectly filled, about 125 ℔s., divided the swarm in September, and with an extractor took 60 ℔s. that was not needed for winter.

Swarm No. 2, I worked on Adair's long one-story, extended it to four feet eight inches, eight inches more than I got occupied, worked exclusively with the extractor, got a trifle over two hundred pounds, divided in September made two very large swarms.

Swarm No. 3, worked two stories, full size, with forty frames. It seemed too large, and was not occupied to advantage. I worked with the extractor, got 148 ℔s. divided in September.

Swarm No. 4, I divided as soon as bred up, worked them in the single high presure hive, two story each; got 305 ℔s. from the two.

Swarm No. 5 and 6, I worked full size, lower story, with twenty frames each, with long boxes and little frames, in supers. No. 5 gave a good yield of honey. No. 6 after

running some time in the summer with a poor queen, they superceded her or rather I did; but they hardly more than got into condition for winter. The six figured up to 1,200 lbs. and a trifle over, and four swarms of increase.

I would say that I had the benefit of about sixty empty cards. My whole apiary of 35 swarms, in the spring, gave me 2,400 lbs., and 32 increase, and are now, March 11th, in close confinement, numbering over 90. The thermometer ranging from 38 to 45 degrees above zero, all seem to be doing well. I am inclined to the belief that a long one-story hive will allow more increase than any other form of hive; but as to surplus honey, I choose to experiment farther before I decide.

A. H. HART.

Appleton, Wisconsin.

Wax Melting.

It is a great saving to have a good place to collect all scraps of wax, until melting time. I make an article that costs only three or four dollars, that makes a good receptacle. It is made in this way:

Get a piece of tin, zinc or galvanized iron, about 3½ feet long, and 3 feet wide, form it into the shape of a sap trough, put ends in of the same material, and in the bottom an inch hole. Then get 4 panes of glass and make a frame for them like a window sash, and put it over the trough-shaped tin, making it tight so that the bees cannot get in. It is then ready for use. Set it in a sunny place, and put in the comb, and in a short time it will melt and run out at the hole in the bottom. Set one end up about six inches higher than the other.

I put my bees out of the cellar on March 26th. They were in good order. Four were very weak and I expected to loose them. I also lost four others out of 153 swarms. All the bees that were wintered out of doors in this vicinity are dead, so far as I can hear.

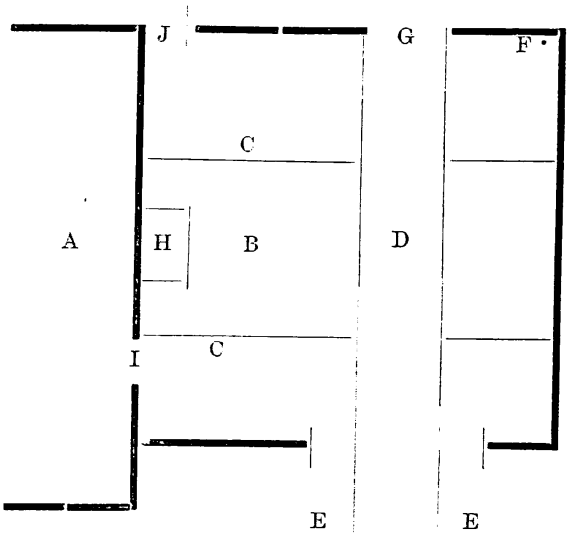
Campton, Illinois. R. MILLER.

For the American Bee Journal.

Report of my Apiary.

One year ago I had 122 colonies of Italian Bees, in a second story room, 16x19 feet inside, double walls one foot thick, filled with saw-dust; temperature ranged from 39 degrees to 60 degrees. I had on May 1st, 86 colonies, 36 having gone up. I took 70 of the best colonies left, and united them, so as to make 44 colonies. On the 12th of May, moved them (the 44) on spring wagons (2 loads) 17 miles to a large poplar (*liriodendron tulipiferas*) grove, where they gathered 5308 lbs. of honey, taken out with extractor. On June 20th, we took 36 of the 44 colonies 36 to a linden (*tilia americana*) grove, where they gathered 3259 lbs. of honey, also taken out with extractor. In all, 8567 lbs. of honey. The 16 colonies left at home, we made into 51 nuclei. August 7th, brought the 44 colonies home, built up the nuclei into strong colonies, fed them 1468 lbs. of A. coffee sugar made into syrup, 1 lb. of water to 2 lbs. of sugar, boiled, put nothing else in it. We took the combs all from 8 colonies, fed them syrup, and had 80 combs built by them, 9¼ x16½ inches. Fed one colony 94½ lbs. of syrup, they built 10 full combs; we then extracted 44¼ lbs. of syrup from the 10 combs, so that the 10 combs cost us $4.00, with sugar at 12 cts. per lb. We have sold 4562 lbs. of honey for $1,015.99—$110.00 for cans, being an average of 19.8 cents per pound.

We have built a room 37x16 feet, 8 feet high inside; wall one foot thick, filled with saw-dust, on the following plan:



A.—Fruit House.
B.—Bee Room 37 x16 ft. inside, 8 ft. high.
C. C.—Rail Road track for cars with bees to stand on in the house.
D.—Rail Road track into bee yard 1 foot lower than *C. C.*
E. E.—Side tracks for cars with bees to stand on when out of doors.
F.—Passage for bad air out under wall.
G.—Ventilator for air above the ceiling to come into room at the floor.
H.—Ventilator in ceiling for air to pass out.
I.—Small door into bee room.
J.—Door to give free ventilation at any time when necessary.

I have cars built so that 20 colonies stand on each car, 10 on one side and 10 on the other; fronting 10 east and 10 west, set 1½ inches apart, packed between with buckwheat chaff. When a day comes that the thermometer shows 45 degrees in the shade, we run the cars out of the house to let the bees have a play. We have had them out twice this winter. We have 100 colonies on 5 cars and 13 on another. Can run them all out in twenty minutes. Will let them stand on the cars until about the 12th of May, then move them to poplar grove. The chaff is to keep them warm in the spring, after they are run out of the house permanently, until moved away.

We have the yard in front of the bee-house covered with gravel, so that when a bee gets down on the ground it can get up on a pebble to start on the wing again easily. The yard is south of the house, and is dry and warm.

We will have a stone trough 3x5 feet with bottom covered with pebbles, and a water vessel so arranged that the water in the trough will stand just high enough for the bees to alight on the pebbles and sip the water. Also a zink pan 3x7 feet, 1½ inches deep, with lath 1x¼ inch, standing on edge, every 3 inches across the bottom of the pan, so that when there is flour one half inch deep in the pan, the bees can get up on the lath to take wing. The trough and pan will be on a car that can be run into the bee-house when the weather is unsuitable, out of doors.

We extracted the honey from the combs four times during the season. Four persons can take the combs out of the hives, extract the honey and put it in barrels, at the rate of 1500 lbs. per day, and put the combs in the hive again easily. Our extractor is one of our own make, and will take 4 combs at a time. The can is stationary. Next year we expect to have the machine arranged so that the honey will run into the barrel as extracted, which will enable us to take out 2,000 lbs. per day. Our hive is the Langstroth Double Story, 20 combs.

P. W. McFATRIDGE & SON.

Carthage, Indiana.

For the American Bee Journal.

Bee Items.

I notice in the March No. of the JOURNAL an article on numbering hives. I agree with Mr. Wilson, and think it very necessary that every hive should be numbered, and its stand numbered to correspond, especially if the bees are wintered in doors. I once concluded to change the location of my nucleus hives by setting them out in spring directly on their new stands. They had been in the cellar about four weeks and I thought would not remember their old location. But I soon found out different. The bees, in returning to their hives, all went back to their old stands, and I was compelled to set their hives back again on the old stands. Now if there had been other hives sitting on these nucleus stands, I would surely have lost all my nucleus swarm, as the bees would all have went into the hives that were sitting on their stands, and I should not have noticed it; but as there were none there I noticed the bees flying about hunting for their hives, and I moved them in time to save them.

I raised an Italian Queen in a nucleus, and as soon as she became fertile and laying, I attempted to introduce her to a queenless stock in the farther end of the Apiary. I caged her and waited the usual time, then examined them but they would not accept her. I kept her caged eight or nine days, feeding her every day myself, but they would not receive her. So I concluded to open the cage and let her out on the comb and see what they would do, but instead of that, she took wing and was out of sight in a twinkling. I stood still waiting for her to return to the comb, but she did not come. I gave her up for lost, but thought I would look in her nucleus where she was hatched, and sure enough, I found her imprisoned by the bees, they having sealed queen cells would not receive her. It has been said that it makes no difference in sitting bees out in spring if we do set them on one another's stands. But I can't believe it. They will recollect their old stands a long time, and it causes a disturbance among them by having strange bees trying to get into their hives. Besides a great many are killed in entering the wrong hives, as they are taken for robbers. I have the entrance blocks to my hives numbered and a corresponding number on each stand. I carrying my bees out of the cellar. I notice the number on the entrance block and set the hive on its own stand. It is no more trouble or work to set them out right, than it is to set them wrong. "Have a place for everything, and keep everyting in its place," I think should be applied to bees as well as any thing else.

J. M. BROOKS.

Columbus, Indiana.

New System of Bee-Culture.

"Coe's Apiary" is a Bee-House and Bee-Hives combined. The house is used as a permanent receptacle, or summer and winter stand, for the hives; and is so constructed, that the room containing the hives, is protected on all sides by a series of dead-air spaces. And, being warmed and ventilated by the heat generated by the bees, the air inside may, by the proper adjustment of the ventilating flues, be kept of an even temperature—higher or lower as desired—quite independent of the atmosphere outside.

It is not claimed specially for this system, that it will produce fabulous amoants of honey from individual hives, unnaturally pushed for that purpose. But it is claimed, that it reduces to a practical, well defined method, all our present knowledge in bee-culture; by means of which, an average annual product may be depended upon with as much certainty as in any other branch of industry.

Among the many excellences of this system the chief one perhaps, is, that it possesses in great perfection, all the conditions necessary to wintering bees without loss, with the smallest consumption of honey—combining the desirable features of a summer stand and special winter repository, without the expense, labor, and trouble of either. It is also specially adapted to the necessities of bees during the changeable, windy weather of early spring, when they require a higher and even temperature to facilitate breeding, and when the hives must be frequently opened.

As in winter the temperature of the room may be kept above that of the outside atmosphere, so in summer it may be kept below; thus protecting the bees from severe extremes, both of heat and cold.

Another valuable feature of this system is, that it overcomes entirely that greatest of all objections to bee-culture—the fear of being stung.

The bees adhere more closely to the combs, and are less disturbed, than when a hive is opened in the bright sun-light, and any that do leave the combs fly directly to the window, and not into the face of the operator. Veil and gloves are dispensed with, and visitors may stand by and witness all the manipulations of a hive without the least fear of being stung. For all the operations to be performed in an Apiary; such as, feeding, transferring, making artificial swarms, extracting, placing and removing surplus boxes, introducing queens, queen-

breeding, equalizing, &c., this system affords conveniences and facilities so far superior to the out-door system, that it is difficult even to make a comparison.

This mode of bee-culture also commends itself for general use, on account of its cheapness.

The house and fifty hives will cost about one-third less than the same number of good out-door hives. And while the house and hives will last a life-time, the out-door hives must be re-placed by new ones every four or five years.

Also by this system, bee-cultuue which has been very appropriately termed "the poetry of labor," is brought quite within the sphere of woman's work.

How untiring industry, tender sensibilities, and acute perceplion, eminently fit her, not only for the duties of this delightful employment, but also for the discovery of means for its more perfect development.

J. S. COE.

Montclair, New Jersey.

For the American Bee Journal.

Austin Texas.

I want to describe Austin, Texas, as plainly and concisely as possible, and try to induce some bee-keepers to come and settle among us. Bee-keepers don't know what to expect of Texas, and therefore are afraid to come here.

I don't know how well other places in Texas are adapted to bee-keeping, but I do know that Austin is a first-rate place. I will give you a record of my apiary for 1874.

I began with 30 colonies in the spring, these increased to 64, of which I sold 10 in about the middle of the honey season; this left 54, from these I took after September first, about 3,000 lbs. and could have taken more, had I began sooner. Altogether though the year I took about 4,000 lbs., besides raising a few queens. All this was done under disadvantages, I being sick every few days for two months in the honey season, and couldn't procure any help. Besides this, I was not in the best location, and we had a drouth of three months when the bees did not gather any more than enough for their own use.

This drouth was unusual; the usual length being only about two months duration.

Bees begin to gather honey about the 8th of February, though they don't store much of it.

If you have empty combs to use, you can begin to extract about the middle of March.

By the last of March, the Italians begin to swarm, though the Blacks seldom swarm before the 10th of April. After the swarming is over, the bees begin to store honey in earnest, and continue to store with little interruption until the middle or last of July, when the drouth sets in, and continues generally six weeks or two months, this is the first honey season.

About the 19th of September, the fall rains set vegetation growing again as in spring, but we gather a larger harvest than we did in the spring and in a shorter time. In many sections, this harvest is almost ruined by the bitter honey gathered from a plant that covers the poor land. This harvest lasts until the frost stops it, about the first or middle of November.

Friends, if any of you are going to move, come to Austin, we have a healthful climate, beautiful country and warm winters.

Don't undertake to bring your bees with you, sell them and pocket the money, come here and buy Black bees and Italianize them. You can buy bees from 50 cents to $5.00, the price depends upon the locality. Hives will cost from $2.50 to $6.00 each.

Come, there is plenty of room.

B. H. IVES.

For the American Bee Journal.

Longevity of Bees.

In the February number of the JOURNAL, Mr. Weatherby enquires about the comparitive longevity of the Black and Italian bees. Perhaps the following from my memorandum book, may interest him:

July 13th, 1872.—Selected two medium swarms, one black and one Italian; placed them at considerable distance from my other hives, changed their queens, confined them in cages, and placed them immediately among their new subjects. At this time the combs were well filled with eggs.

July 15th.—Set them both at liberty.

July 19th.—Found both queens laying freely.

Aug. 5th.—Three weeks from the time they commenced laying in their new hives, I found a few young bees leaving their cells.

Aug. 10th.—A very few young bees appeared at the front of each hive, and after flying a short time returned.

Aug. 19th.—A considerable number of young bees appear in front of both hives and seem to be at work, but do not bring in any bee-bread.

Aug. 21st. - The young bees in both hives are very busy, and occasionally one comes home with his legs loaded. After this time they are busy and numerous.

Sixty-one days after, I changed the queens. I examined them very carefully and found but three or four bees belonging to the old stock in each hive, which shows that these bees lived less than forty days after leaving their cells, the first five of which were spent within the hive; and they did not appear to be really at work until about the tenth day.

H.

Will Co., Illinois.

Introducing Queens.

Have your hive made tight, and of thick lumber, to receive the frames of any of your other hives. Have two doors in place of sash or frames, so that you can make the hive any size you wish. When you get your queen, go to some of your strongest hives and get two frames with hatching brood, place them in the center of the hive, with the two doors close to them, which makes a hive of two frames; then put the queen with the bees that come with her in with the two frames of hatching brood, and keep them shut up for two or three days in the parlor or queen house, or any warm place; keep up the warmth by placing bottles of hot water in the empty space on each side. After three days, add a frame of bees, etc., by putting them for 12 hours, on the side, in place of the bottles, and then shake them in front and let them go in; then add the

frames to the other two, and continue till the hive is full. Place them on the third day, on the stand they are to occupy, and allow them to fly, by opening a small hole. Release the queen at once, and there is no danger of her being killed.

We had large quantities of honey dew this year again, and bees have paid well, where they have had attention, and I think Western North Carolina is destined to be one of the greatest honey-producing countries in the world. It is well adapted to the culture of all the fruits and grapes that will grow in the climate of this temperature.

Stock raising is wonderful; it is very healthy, pure air and water, and water power to run almost all the machinery in the United States, if it was applied.

ROBERT T. JONES.

Flat Rock, N. C.

For The American Bee Journal.

Granulated Honey.

In an article in the February No. I think Mr. Dadant in his article on adulterated honey does the bee-keepers of this country a great injustice. I was astonished on reading that article. I had supposed he was better informed on that subject. He says: "It is consequently of the greatest importance that all BEE JOURNALS inform their readers that the best test for honey is the candying; that honey candies because it is formed of grape sugar, which granulates and does not crystalize. That on the other hand sugar syrup is made from cane sugar which does not candy but crystalizes. That if they find on the market from December to June, a so-called honey in liquid condition, they can with absolute certainty declare it a sophisticated honey, or at least a honey which by boiling, or by pure mixture, has lost its character as true and pure article." If Mr. D. had stopped when he said that candying was a good test that the article was not sophisticated, it would have been well enough, but when he asserts that all pure honey granulates before December with an absolute certainty he not only states what is not the fact, but he injures the business of all bee-keepers that wish to put a pure and first class article of extracted honey on the market. Honey will not granulate except through a process of deterioration while the flavor is not injured as much as by boiling, yet it is injured so that it is readily detected in tasting a sample of each. I have had honey two years old, and no more signs of granulation than the day it was extracted. If Mr. Dadant would drop in now at the Patron's Corporation store in Lawrence, he could see some of my honey that was extracted and bottled last June under four linden blossoms, that is as clear as when put up. The fact is, if honey is properly evaporated, it will not granulate for a long time, if at all. The thinnest honey granulates the first, and the best honey is honey that is not granulated, the next best is the granulated and the granulated brought back to the liquid state by heating, is still a little inferior. This of course has reference to honey from a given plant. But if care is taken in heating, the difference is scarcely preceptable. Ir must be held in water and the vessel that contains the honey must not come in contact with the bottom or sides of the vessel that holds the water, and the water must be heated very slowly and must not be brought to the boiling point at all and only enough to dissolve the honey. If Kellogg had done that way he could have evaporated his honey without making sorghum of it and without very much injuring its flavor, and if the water is not heated more than 150 degrees, we doubt if it would be possible to detect any injury to the flavor of the honey. But the best way to evaporate honey is in vats or pans made of galvanized iron or tin and the honey put in about 2 inches deep, in this way in the summer time it will evaporate itself without artificial heat, and you will have from the thinest honey taken out the same day that it is gathered.

Just as thick honey as you choose, you can prepare in that way that will, in many instances keep for years without any show of granulating. Sometimes honey is very thick when gathered. I will say here, that the honey that I had over two years without granulation, was put up as fast as extracted. It was gathered principally from the poly-gonum and buckwheat. What we want in the disposition of our honey, is honest dealers. Another way is for bee-keepers to put their own honey on the market, under their own name. Many are doing that way now, and there is no reason why it could not be more universally practiced.

Lawrence, Kan. N. CAMERON.

For the American Bee Journal.

My Report.

I have started an apiary, and will show some bee-keepers here, how to keep bees. I think that I can keep more bees than has ever been kept by any one man here yet. Some claim that I cannot run my number higher than 40 or 50 colonies, if I do my best, but I don't believe a word of it. Quite a number in this county have started the bee business, and have a bright looking apiary, of 30 colonies, more or less, but when spring would come, they would have perhaps 10 colonies left to build up again through the summer. This is the way they have done for three or four years, they let their bees go down and then say that there is no money in them. We remarked that they gather honey, and we can get money for that. Yes, but they will die through the winter, they say; but I say there is a reason for your bees all dying. I have handled bees all my lifetime, more or less, and for the three last years I have done but little else.

Bees are wintering very well here, so far. I have 11 of my colonies put up a new way for wintering. I went to the saw-mill and got some slabs, cut short; 3½ feet is about the right length to split up for stakes, and to cover with. I drove 4 stakes around the hive and about a foot from it, leaving the stake about as high as the hive with the cap on; then stuffed straw all around the hive, clear to the top, my bees all stand with the front to the southeast, then covered the hives, straw and all, with the slabs. In one of these hives I have three nuclei, each one having a queen. They were all O. K. when last I saw them.

A word for the Italians; they are the only bees for me. I wouldn't give one good Italian colony for five of the best black bees

I ever saw. The Italians are not so cross as the blacks, and it does not take as much to keep them. You can give the Italians some advice and they will take it, but little advice the black bees will take. They would sooner give you a sting.

D. H. OGDEN.

Wooster, Ohio.

For the American Bee Journal.

How I Wintered.

I have not seen anything for a long time from Mr. Gallup. Perhaps the abuse he has received has disgusted him with the bee-keepers. Myself as well as others have been buying the New Idea hive, and am satisfied that in a good location for honey it will give large results. Those who have failed to obtain large surplus have either a bad location or else they do not manage it properly, and if Mr. G. does not furnish the brains to run them, they should not blame him. I made a Gallup hive last spring, four feet long, found it larger than necessary for this place as honey is rather scarce here in town, but it gave me twice as much surplus as any other. Last fall I prepared them to winter on their summer stand according to Mr. G. direction, but I confess I did not have full faith in their wintering well. After we had had two months of the coldest weather known in this climate, I went to the hive to see if there was any of them alive but got no audible sound from them, and concluded they were all dead, gave them no further notice until March 10th, when the thermometer rose to 40 deg. the first time in months, I concluded to open the hive and know the result. Imagine my surprise to find them in the best possible condition; combs bright and clean, not more than half a pint of dead bees, very little of the stores consumed, and four frames containing brood. I could not help giving one good "hurrah for Gallup and the New Idea Hive."

I do not presume to give advice to any one, but for myself I shall winter my bees on their summer stands, in the above named hive, hereafter. I put ten swarms in a frost proof cellar, but none of them wintered so well as the one left out. B. L. TAYLOR.

Minneapolis, Minn.

For the American Bee Journal.

"Bee Lines" from Texas.

"Candid honey, a test of purity and excellence." That's the key-note, Mr. Editor. Sound it so loud, Bro. Dadant, that all bee-keepers and adulterators too, shall hear it, and let the latter *tremble*, we were really glad to see both of you take that stand. For I have long since considered granulated honey the best of all honey. I have been greatly surprised at apiarians making the inquiry how they might prevent their honey from candying, in order to change it back to a liquid state. But my greatest astonishment has been, that honey dealers should reject candied honey as unsaleable. But it is very evident that the dealers wished to get the honey at as low figures as possible, that they might make the larger profits out of it. I hope that all bee-keepers will fall into line and make "candied honey" a test of excellence, and head off those honey adulterators.

I will say to Charles Sonne, of Sigel, Illinois, that we are troubled very much with the "Asilus fly." We have at least a half dozen that prey upon our bees, a large brown and 1¼ inch long (Promachus), and another 1 inch long, redish brown with green head. (Dasypozau), and still another ¾ inches, very much resembling a bumble bee in color. They prey on other insects, and even on each other. I have seen them capture the Dragon fly, much larger than themselves.

The largest sized Dragon fly (Musquito Hawk), is one of our greatest bee enemies. They hover over our apiaries by the hundreds, and take the unwary bee on the wing, continuing their flight while they devour their victims bodily, or else alighting on some limb near by and take their meals more leisurely. I have written several articles on enemies of the bee, particularly of the "Asilus fly," and I am a little surprised that Mr. Some has not read them.

Our winter is pretty severe for Texas, but our bees are wintering well.

Kaufman, Texas. A. H. R. BRYANT.

For the American Bee Journal.

How we Wintered.

The plan of wintering bees, by which we have succeeded in saving every stock, on natural stores, all coming out in splendid condition, no signs of dysentery or bee disease, and with but very few dead bees under the frames, is as follows:

First, remove the cap and boxes, cover the frames with a piece of cotton sheeting, putting a tack in each corner to keep it in place. Then place the hives in a shed, boarded tight to keep out all storms, in rows about three inches apart; then pack straw between and around and on top of the frames, so they will be covered three inches with wheat straw; then lay plank on top, to keep the straw in place or you can put another tier of hives, on them. We prefer wheat straw for several reason: In extreme cold weather, there would a steam or vapor come out of the straw, like a person's breath; in mild weather it could not be seen. That vapor is what killed the bees, *we think*. Our bees had the same chance to get at cider, bug poison, honey dew, &c., as others in our vicinity, and why did they not die It *was the manner of wintering*, we think.

Several years ago we tried covering half of the hive with straw and the other half empty boxes turned as for storing honey, all covered with cap, with two ventilating holes open in it. In the half of hive covered with straw the combs were wet, and mouldy, and the bees dead; whilst the other half was all right, combs dry, and bees alive, dry and nice. Can it be possible there was different kinds of honey in that half of the hive? No,

it was the difference in the manner of wintering. If the cap had been removed so the air could dry out the straw, we think that half would have been all right. The honey boxes on the other half were the common square boxes, made of white wood. When they got wet, they warped and sprung apart so the moisture escaped into the cap out through the ventilating holes and kept the bees dry.

The only source of danger we can see in our plan of wintering, is the mice. Yet we have had no such difficulty, the past two winters, and this one so far. We shake out all the chaff, so as to leave nothing in the straw to entice the mice or rats to nest in it. BARKER & DICER.

Marshall, Mich.

Foreign Department.

CONDUCTED BY CH. DADANT.

For the American Bee Journal.

Historical Notes on Bee-Culture in Auvergne, (France.)

This interesting historical sketch has been translated for Adair's Annals of Bee-Culture, but as Mr. Adair seems to have abandoned the publication of that book we take the liberty to translate it again for the A. B. J. [TRANSLATOR.]

Among agricultural industries, bee-culture is generally the most neglected branch. It is only the exceptions among our husbandmen who possess a few bee hives. Mysteriously hidden under the shade of the bushy hedges that enclose the small village gardens, they are almost abandoned to their own chance. In the spring, the proprietor deprives his swarms of the fruit of their yearly labor, and then, until the ensuing year, they remain there, forgotten, and almost unprotected. It has not always been so.

Among the Romans, bee-culture was regarded as an important source of income. One of the most essential requirements to obtain the rent of a farm, was to give proof of one's apiarian knowledge. Domestic economy then required a large quantity of honey, not only for the making of confectionery, cakes, artificial wines, but also for the celebration of sacrifices offered to the rural divinities that watched over the gardens, the orchards and the harvests. For such a consumption, the Italian production of honey was not sufficient, and it is not too rash to advance that, among the reasons which induced the Romans to invade Gaul, the quality of the honey that the forests of that country furnished, can be taken into account.

The French have had for bees and their products the same relish as the Romans. The *Salic Law* contains a whole chapter of regulations on hives and their inhabitants.

The possession of bees was highly prized and each one planned to increase the number of his colonies. Several means were indicated.

Our country being then much more covered with timber than at the present day contained in its forests a large number of wild swarms, lodged in the trunks of old trees. The lords and monks maintained particular servants called *apiculaires* whose office was carefully to collect those colonies. We could not discover what their process was. The study of the habits of the bee could have pointed out a large number of ways of the utmost simplicity. In South America, for instance, the bee-hunters know very well that a bee detained as prisoner for a few moments will fly to its nest in a straight line without deviating. It is only necessary to catch a few bees, to sprinkle them with dust from the stamens of plants so that the eye can follow them better, and to liberate them one after another, allowing them to start from different points; at the point of intersection of the lines followed by the liberated captives they are sure to find the swarm and the spoils that they covet.

In the month of April when the willows are in bloom, and in the month of May, when the white hawthorn disappears, the *apiculaires* ascending along the brooks, and around the springs, succeeded easily in discovering them, by following the bees that came to water *en foule* and returned back to their hive after having visited the pine and the oderiferous grasses. Then they carefully studied the character of the swarms before removing them, so as to reject the lazy races of bees, for according to the erroneous belief of those people, they would have dishonored the good bees by their bad example.

Several lords, high justices, had alone the right of removing the honey bees from the forests. This right was called, in the feudal language, right of *abeillage*.

In relation to the fugitive swarms, according to the custom in Auvergne, which was consecrated by old usages, he who found them on his estate was compelled to declare them within a week to the lord under whose jurisdiction they had been found. By so doing, he acquired one half of said swarms, the other half belonging to the lord as waifs. In default of this statement, not only the finder was to restore the swarm, but he was condemned to a fine of sixty *sols*, and if he had found the swarm on the land of another, he was moreover condemned to an arbitrary fine. We possess one curious example of the execution of this prescription. *Claude Roux*, of *Pignoles*, parish of *Sistrieres*, under the jurisdiction of the justices of *La Chaise Dieu*, had discovered a swarm of bees. He had neglected to declare it, and he refuses to pay the right of waifs, to his lord. By a verdict rendered on the 3d of August 1493 by the bailiff, Claude Roux was condemned to the fine and the restitution of the swarm.

As the first bees were found in the midst of the forests, it seemed at first natural to preserve them in their primitive habitations. They were, therefore, lodged in the trunks of trees; later they were put in baskets, of a conical shape, made of rye straw sowed up with splints of briars or of hazel. Afterwards, hives were manufactured by nailing four boards together closed with a wooden or stone cover. Sometimes also, but rarely, the bees were placed in the very walls of farm dwellings, by preparing cavities which

run through the wall and were closed on each side by disks. Fugitive swarms seem to prefer these lodgings to any others.

In winter these different hives were covered with straw mats. In the XVII century the straw hives with their straw mats cost four or five *sols* each.

The apiaries decreased at an epoch which it would be difficult to determine. Let us say, however, that the extreme cold winters of the seventeenth and eighteenth centuries must have destroyed many, as did the past winter. Besides, the collectors of taxes, contributed greatly to this decrease by their habit of taking the hives, when they could find nothing else in the houses of the poor peasants.

"Will you give us your opinion through the JOURNAL, whether Mr. Dadant or Mr. King is right in the matter of there being black bees in Italy."

AN OLD SUBSCRIBER.

We do not see any disagreement upon this point, between Mr. King and Mr. Dadant. The only point discussed seems to be, what they were carried to Italy for. Mr. King merely says he saw them there, and Mr. Dadant does not deny it. He only says Mr. Hruska had received black bees to experiment on the pathenogensis, and these stocks or their offspring, were those Mr. King saw. He also offers a reward for the name of any one who has hybrid bees, *unless they were imported there, from outside of Italy.*

It is conceded that black bees and hybrids are there, and are raised there; "black bees and their offspring."

Therefore the point to be discussed seems to be "For what were they brought there."

We do not care about this point. If any of our readers dn, we doubt not Mr. Dadant or Mr. King will answer letters willingly.

Are bees likely to remember robbing six months after committing very successful depredations upon each other. How can we prevent their robbing in the spring, before the flowers begin to yield their honey? We have wintered them on their summer stands, in movable frame hives and so far successfully—as a recent examination, made while giving them a "fly" in the house has proven.

MRS. L. B. BAKER.

Lansing, Mich.

We do not think the bees will remember—there will be very few bees left in the colonies, that were there last summer.

Close all the openings to every hive—before they fly this spring, except space for one or two bees at a time to enter.

If they are in proper condition, and each hive has a fertile queen there will be little danger that they will not defend themselves. Notice our seasonable hints.

I wish you would answer the following questions in the JOURNAL:

1st. Can quilts be used on hives with only ¼ to ⅜ inches space between frame and honey-board? Can same quilts be used on hives when from ⅛ to ¼ inches difference in width or length?

2d. Which is best for quilts, cotton or woolen cloth and how do you make them.

3d. Has C. Muth a patent on his straw mats, and how are they made. I have used mats for year's, made with straw in wooden frames, that leaves a space of about ¾ inches between mat and honey-frames for bees to cluster in, which they always do. Don't you think that is an injury to the bees when they are put on late in the fall?

JAS. E. FEHR.

1st. We would remove the honey-board entirely and let the quilt take its place, until very warm weather; then you can put the honey-board on again if you wish, The size of the quilt is not particular—⅛ or ¼ inch is of little consequence.

2d. We have used both woolen and cotton, and do not see that one is better than the other. If we were making out of new cloth should use cotton, because it is cheapest. Two thicknesses of cloth with cotton batting between them, made the size of the top of hive you wish to use it on, is all that is necessary—quilt it or not, just as you please.

We never heard that Muth claims a patent on his mats. We do not like any quilt or mat that does not lie directly on the frames. We prefer the bees should cluster in the comb.

What is the matter, when bees plant themselves on all sixes at the entrance of the hive, and with hind legs spread out and tail stuck up, they make a noise like a distant spinning wheel, and there seems to be a crack on top of the tails? I thought at first they were, robbers, but I watched them, and some of them did it, when loaded with pollen.

MRS. M. B. CHADDOCK.

We think that in this case the bees were not perfectly familiar with their locations, and were a little in doubt if it was safe to enter. Or it may be they discovered bees about. It seems to be a movement of fear and caution.

How is Rye prepared to feed bees? How many frames would you put in a hive. Would you put bees in a hot bed?

W. M. MOORE.

We feed Rye to bees ground, but not bolted. Put it in a shady place near the hives. It is no use to put it on top of the frame. We would put nine 12x12 frames in a common hive; for extra large, non-swarming hives, twice as many. Let older bee-keepers than yourself try the hot bed.

American Bee Journal.

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Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. ℔ lb.

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☞ As the old stock of honey is about exhausted, all grades command better prices. Comb, 18@22; Strained, 8@11; bee's wax, 27½ cents, dull. Our new honey commences to come in, in June.

STEARNS & SMITH.

A subscriber from Oskaloosa, Iowa, sent us 50 cents recently for subscription, but signed no name. Will he please write again and give us the name.

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

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How to Transfer Bees.

A subscriber writes us to know how to change bees without loss, from the round, log, square gum or common hive to movable frame hives.

As this is a timely question, we give an answer at length.

The best time to do this is about the season of swarming, which season varies with the latitude and climate. In the Northern States, June is the month of swarms; in the Middle and Southern States they come with early and abundant bloom.

About the time when swarms are expected naturally, take the hive which you wish to transfer, and blowing a little smoke into the entrance, remove it a rod or more from its stand, leaving an empty box or hive in its place, into which the bees that are out in the fields may gather. Invert the hive which you have moved, and put over it an empty box or hive, as near the same size and shape as possible, and stop all holes or cracks between the two with grass or weeds that may be at hand, leaving no hole large enough for a bee to escape. Then with sticks keep up a sharp drumming on the bottom hive, at which the bees, alarmed, will fill their sacs with honey and mount up into the upper hive. In from twenty to thirty minutes, most of the bees with their queen will be in the empty box on top. The beginner need not fear driving too many; let all go that will. Then carefully set the box containing the bees in a shady place, and take the old hive back to the place where it stood. While you have been driving, many bees will have come back to their home, and finding it gone, will be roaming in and out of the empty hive in distress. These will at once rush into the old hives when it returns, and gladly adhere to it; then remove it to a location some yards off, when, as it contains many hatching bees and eggs, the bees will at once rear a new queen to replace the one just driven out, and in a short time be as prosperous as ever. Now place your new movable comb hive, with its entrances all open, on the old stand, and spread a sheet before it; on this sheet empty the bees you have driven into the box, and they will at once take a line of march for the entrance of the new hive; if they gather there, brush a few in with a wing or twig, and they will call the others, who will enter in a body and accept the new hives as their home.

You have now a nice swarm in your new hive, which will work as well as any natural swarm and quickly stock their hive. You have besides your old hive, in which the bees are rapidly hatching, and in three weeks they will have a young queen and a goodly number of bees, *but no brood* in the combs. Therefore in three weeks repeat the process of driving out the bees; and after this is done, split open the old hive, or carefully take off the side, and fasten all straight nice pieces of the comb into the frames of a movable comb hive;—a little melted resin will help hold them in place, or they may be kept in place with thorns. Comb need not be rejected because it is old or black, as, if it is straight and free from mould, it is quite as good to rear bees in, or to store honey for their use—indeed, it is proved that old comb is better than new for these purposes. No drone-comb should be put in the frames. This may be known by the larger size of its cells.

Arrange the frames containing comb in in the hive, set it in its place, and empty the bees on a sheet in front, as before

described. They will soon securely fasten the combs, and work on all the better for this necessary disturbance. To the novice it may seem incredible that bees should be thus driven from hive to hive and directed as you please, but it is now done every day through the summer, by hundreds of bee-keepers, who find not only that it may be done without loss but to great profit.

The Attic as a Bee House.

EDITORS AMERICAN BEE JOURNAL:—Having lately been informed by an acquaintance that some of the bee keepers "down east" sometimes set apart a closet or small room in the barn or other buildings, and place therein a swarm of bees without giving it any further attention, and when new swarms come out they form new colonies in different parts of the room; that when honey is wanted it may be cut off—if there be any surplus—and used as comb honey. As I am about to build a barn, please inform me whether such practice is prevalent and profitable; how large the room should be, and how finished, &c. S.
Madison, Wis.

We have seen the attempt made repeatedly to keep bees in a closet, in the attic, on the lower floor of a house and in a room made for the purpose in a barn. But never have known the attempt successful more than one year. It is not true that as swarms come out, they form new colonies in different parts of the room; they go outside when swarming, and if put back into the room, the queen of one of the colonies would be destroyed, if the bees remained there. We have seen four strong colonies of bees put into such a room in June, probably all queens but one were soon destroyed, for the bees all worked together, and there being many of them, comb was built and honey stored very rapidly. The owner was delighted to exhibit to visitors how easily he could open the inner door and take honey whenever he wanted it. By fall, however, the old bees having died off, the colony was not so large, and the next spring only one queen being there with her progeny, the increase was not as large as in an ordinary hive, because there was not as much economy of heat in such a space. The result that year was, that only honey enough was stored to winter the colony, and the next year it became queenless and died out. In other cases, we have known the bees to keep on for several years in such a room giving fair surplus but no increase.

This is a very expensive way of obtaining honey, as figures will show. Suppose a man to obtain from his bee palace an average of one hundred pounds a year for ten years, which would be doing better than they were ever known to do in such a situation, this would be worth at a fair average price for honey, 20 cts. per lb., or $200.00.

Suppose the same swarm put into a good hive, and allowed to swarm every year, which bees may safely do, the increase in ten years would make his number five hundred and twelve colonies, which at $5.00, an average price for bees in this country, would be worth $2560.00. In this calculation no allowance is made for the honey which would be taken in the meantime from all these bees.

Seasonable Hints.

If bees have been taken care of as we have suggested they are now, in spite of a spring more cold and unfavorable than we have ever known, in good condition. By this we mean that their hives are full of brood and young bees, and they are in just the state to make the most of the abundant bee pasturage which is sure to come, during June and July.

There are two classes of bee keepers—the one class desires to increase their number of hives as fast as prudent, the other wishes to receive the greatest profit from the bees they now have, and cares little about increase.

For these classes different ways of management are necessary.

If increase is the object, it can be secured better far by division than by allowing natural swarms to issue. Those who have empty comb, can do it much more rapidly and safely than those who have none.

Suppose you have ten colonies strong in brood—on Monday you take a comb of brood each from nine of them, place the combs in order in an empty hive and move your tenth hive a yard or more directly back of where it first stood, and place the one just filled in the exact spot you take number ten from. You put empty combs in the places of the

ones taken from the nine hives: you can repeat this operation every other day as long as you have empty combs to give, but if you have no combs and are compelled to put an empty frame in place of the full one, so that the bees have to build comb, we would not advise repeating the operation oftener than once a week.

In this way you can increase your colonies very fast, if you have provided queens for the new ones in nucleus hives as directed last month—being careful to feed sugar syrup liberally in all rainy weather or when honey is not secreted in flowers.

If this way is considered too troublesome, you can divide each of your ten colonies at once in a way we have often described as nearly copying natural swarming. It is this: "Take from a hive a frame of brood and the queen. Put them into an empty hive, filling the space in the new hive with combs, if you have them; if not, with frames. Set this just where the old hive stood—moving the other three or four yards away from it. You then have in the new hive the queen with the main force of bees able to work and they will fill up so rapidly that in three weeks you can take combs from it to form new colonies. The old hive, even if compelled to rear a queen for itself will do well, as it retains most of the brood, and if a queen be given it, you will find it soon in condition to spare combs for new colonies.

To the second class, those who wish for the greatest amount of honey, we can only say: Use the extractor and in this way keep the hive supplied always with empty comb. You will then have no trouble about swarming. If you wish for box honey, still empty combs below with the extractor often, keeping the boxes on and the full force of workers in the hive. There is no surer road to profit than this, if your colonies are strong. These rules apply to the swarming season whether that comes in April or May, as in the South, or in the month of June, as in this latitude, or in July as it does in sections farther north. In July number, our "hints" we hope will guide to successful management later in the season.

The A B C of Bee Keeping.

We often receive letters from those beginning to keep bees, complaining that we are not plain enough in our directions and asking that we give the "A B C" of bee keeping. To all these we answer that we try to make ourselves understood, and to give, each month, hints adapted to all who have not more knowledge on the subject than ourselves, but if we were to adapt ourselves to the comprehension of those who are just beginning to keep bees, we should find room for little else. For these there are text books and works on bee keeping that make matters simple and easy, and these are sold so cheaply that no one should own a colony of bees, without buying one of them. This journal, while it seeks to give information on all points connected with bee keeping, cannot in any sense take the place of a book for beginners.

Which is the best knife for uncapping, without heating the knife?

Winder & Murphy both have knives that uncap nicely in warm weather without heating.

I want to know how I can secure frames filled with straight comb?

That is my great desire, for this season I have ten good colonies, but no spare comb.

E. B.

There is no way so sure as to put an empty frame into a strong colony between two straight combs in this month. Move the combs apart the right space and put your frame in, and keep on removing combs and putting in frames. You can use this comb in building up other colonies as directed in this number. Bees are natural enough to "abhor a vacuum," and space thus made will be filled as speedily as possible.

1st. Does the bee make honey that is poisonous? If so, what season of the year, and what flower or flowers is it made of?

2d. What is your opinion of the orange flower for honey? also yellow jasamine? We consider the yellow jasamine a very poisonous flower.

3d. Is the swamp magnolia a good honey flower? Also the queen bay.

What is your opinion of the swamps and glades of Florida for an apiarian? Are summers too hot? Are they too long? giving the moth a longer time to do its destructive work?

4th. Is it necessary to give bees salt? If so when, how often, how much, and for what is to be given?

By the way, we have in this region a new (to us) enemy to the worker bee. It is a large fly or bee. It resembles a hornet in some respects, and bumble bee in others.

It has, I think, six legs; two are used as catchers or holders. The legs are fuzzy or hairy and long. It secrets itself on a limb, rail, or anything to rest on and hide. A grapevine is a great place for them to hide on and as the loaded bee comes home, the fly darts at the bee like a hawk would a chicken and gathers with his two grabbers, or front legs, and holds it fast, then bores his long bill into the bee and pumps out the honey, lets go of the bee and takes his stand for another. I don't know whether the bee dies or not.

As he is a new comer against us, and without a home, name or reputation to recommend him to us. I have given him the name of a good many representatives who come among us without a home or letters of credit to pierce us with high taxes, and after they have got all, to leave us to bleed and die. The name I think being appropriate, It is "carpet bagger."

Will this name do? Have you a like enemy of bees with you? If so, where did it come from, and how must we manage to destroy it? J. W. M.

We have no poisonous honey at the North and no reports, as yet, of any stored at the South, and our own opinion is that bees do not gather anything poisonous. The orange blossom is reported as rich in a delicious honey, have never tasted it. Yellow jasamine is also named as furnishing some honey, but of peculiar flavor. We hear little about the other flowers named. Will some Southern bee keeper report? We believe nothing but bees are necessary to make the glades of Florida as famous for honey as Southern California. Salt is given to bees, and they take it. We cannot say that it is necessary. Some of our best bee keepers do not use it. We never have heard of the insect you describe, but are greatly interested in your account. Will Prof. Riley or Prof. Berry look into this "carpet bagger" matter and report.

In the JOURNAL, I see directions to close all upward ventilation in honey board as soon as the severe winter weather is over, but I also see that the best way to feed is from the inside of the hive, how can both be done? Also to keep them well supplied with water. I have tried giving it to them from both in and out side of the hive, sweetened and without, but I cannot get them to take that all, though I see them apprently hunting it in damp places. Mine are in a box hive with movable frames, but through ignorance the frames were put too near together, and they are now one solid mass, but a strong swarm and as cross as bees can be, I cannot make them anything else.

I lost a nice swarm in the winter in a Langstroth hive, for this reason—I cannot feed them under the honey board. Am now feeding in sugar syrup put on sponges, which is the most satisfactory way I have yet found. Will it do to stop feeding as soon as the first bloom, such as box wood and Missouri currant comb. Everything is very late, but I see they are carrying some pollen now.

Do you give alsike clover seed this spring? Is it as good for stock as the common red clover, and how late will it do to sow?

How late in the month will it do to send, that it may be answered in the next No.

London Grove. JANE MAULE.

All ventilation can be closed by a quilt laid over the frames. When bees are to be fed, on top of the quilt, a small hole can be made in it through which the bees can pass to the feeder. Some of the feeders are made so that a small pipe goes into a hole in the quilt through which the bees seek the food.

As your bees do not take the water, they probably get it in some hollow log, or a springy place. They prefer it in that way when they can get it.

We would advise you to transfer the bees from that hive where the frames are too near together, as soon as honey is abundant.

We would feed the bees in bad weather until white clover comes. They get very little honey in the early bloom that you name, probably because at that time the weather is not favorable for the secretion of honey.

We do not give alsike seed away this year. It is considered even better than red clover for stock.

Queries ought to reach us by the 15th of one month to be answered in the next number.

MRS. TUPPER: The bees I purchased of you a year ago have done well. They increased to three very large swarms last year, and gathered about 28 lb of honey each.

I put them in the cellar under our living room, Nov. 14, and took them out the first week in April. There was about a pint of dead bees on the bottom of each hive. They had used only 5 lbs. of honey each. They are increasing rapidly now and gathering honey. I found another colony yesterday. The progeny of the queen you sent me seems to be true every time, three gold bands and no degeneration.

I don't feel quite satisfied with the hive I have. It is better adapted to brood raising than storing honey, I think. It contains 9 frames 12x12 inches, but the bees show signs of swarming when full below, rather than work in boxes. J. L. FRENCH.

We are always glad to hear good reports of the bees we send out, and are sure that will be the case if care is taken.

The hive we sent them in, is, in our opinion, the best made, either for box honey or for the extractor. You must have brood raised if you wish to get honey; and hive adapted for brood raising is what you want. Put the boxes on early this year, fastening comb in each one; when they begin to work in one box, put on another, and give the queen room for broods by using the extractor, or taking out a comb often. There is no better hive than the one you describe.

Bee-Men in Council.

KALAMAZOO, May 6th, 1875.

The second semi-annual session of the Michigan Bee-Keepers' Association convened in Corporation Hall at 2 o'clock p. m. President Bidwell in the chair.

The Secretary read a report of the previous meeting, which was read and then approved.

After the transaction of business relative to the affairs of the Association, the programme of the session was taken up. The first topic, "Wintering Bees," was introduced by a paper from Frank Benton, of Knoxville, Tenn., read by the Secretary. The advantages accruing to the "Sunny South," as a winter resort for the apiculturist was considered at length, with the conclusion that the migratory system of bee-keeping might be made both pleasant and profitable. The paper elicited considerable inquiry relative to the cost of transportation and other necessary expenses when the topic was discussed at length.

T. F Bingham—I put 150 stocks into winter quarters in January. When put in, the combs were frosty and soon thawed out, creating a bad smell, reminding one of the old dysentery times. They commenced to dwindle down, and when carried out in March, I had 113 in good condition. Have a distant hope of saving two stocks, my present number.

A. C. Balch—Did your bees commence rearing brood in winter quarters?

T. F. Bingham—They did, largely, as I have always found them to do when they die of diease. I winter in a house above ground, ventilated above and below; temperature from 7 to 45 degrees above zero; bees did not die in the hive. When they die out of doors, I find them in a cluster in the hive. Had abundance of honey in close proximity to the bees.

C. I. Balch—Did your honey granulate?

T. F. Bingham—It did not.

H. E. Bidwell—What kind of honey did you winter on?

T. F. Bingham—Boneset, mostly. The quality was very good; at least, people in Chicago like to buy it in glass boxes.

L. H. Albright—Winter in an out-door cellar, in eight-inch frames. They have all come out in good condition. Put them in December 1st: give hives no upward ventilation; leave entrance open below; do not disturb the bees after putting them in; temperature above freezing.

A. C. Balch—Did your bees have brood when set out?

L. H. Albright—They did, especially the stronger colonies.

H. E. Bidwell—Are your bees black or Italians?

L. H. Albright—All black bees.

A. C. Balch—Do you extract honey?

L. H. Albright—Never. Raise all box honey; sources of supply are white clover, basswood and boneset principally.

A. W. Davis—Do you get any raspberry honey?

L. H. Albright—Not of any account.

H. E. Bidwell—Bees use raspberry honey in rearing brood, seldom storing it in the combs.

Julius Tomlinson—Will the President give his experience in wintering in the cold-frame.

H. E. Bidwell—I wintered 80 stocks in cold-frames, and am only sorry that I did not winter them all in the same manner; left the balance on summer stands; they wintered well but didn't spring well, as they "got sick."

Julius Tomlinson—How often do you allow them to fly in winter?

H. E. Bidwell—Once in two weeks; keep the temperature above freezing point: have discovered but one case of dysentery in the cold-frame.

Julius Tomlinson—Had 26 good colonies last fall in five-inch hives, two sets of combs; wintered out-of-doors and they have dwindled down to 15; much of the time they were well banked with snow.

H. E. Bidwell—Did they occupy the upper set of combs?

Julius Tomlinson—Some did, others did not; bees mostly black and hybrid; had plenty of empty combs for bees to cluster in.

Ezra Rood—I have wintered in a great variety of ways; used to succeed admirably in nearly all ways; now they usually die; had a good cellar, dry and well ventilated; mercury stood at from 42 to 45 degrees; the atmosphere was pure and good; lost three-fourths of my bees in the cellar; used to think that I could "run bees" to my satisfaction, but now—run them into the ground; its a disease—dysentery—that kills our bees; don't think that cold weather raises the mischief, as bees are wintered in Russia and other cold climates without material loss.

H. E. Bidwell—Did you give upward ventilation?

Ezra Rood—Some hives I did, others not; saw no difference in results.

E. J. Oatman—How was your cellar ventilated.

Ezra Rood—By tubes running above in each corner; also have the bottom ventilated.

E. J Oatman—Did you keep a record of the temperature?

Ezra Rood—Yes, and am very careful not to let it go below 40 deg. or above 45 deg.; but suppose it should freeze in the cellar? If the mercury did not go below 20 deg. even, we should not regard cellars of much value.

E. J. Oatman—Extracted stores in August and fed 25 pounds of sugar syrup; put quilts on top and at end of frames; when cold weather comes, put them in the cellar and keep them quiet. Do not put them out in spring until warm settled weather. If cold comes again, hustle them in again; leave off cap of hive but give no upward ventilation; mercury ranged from 32 to 46 deg.; lost eight out of 110 stocks; prefer sugar syrup to honey, and old to new combs for wintering.

T. F. Bingham—Your stocks had young bees in the fall?

E. J. Oatman—They did; especially those that built new combs late, and died the worst.

T. F. Bingham—That hurts the "old age" theory. How have your bees "springed."

E. J. Oatman—Well, for the most part. Have had to double up some of the weaker ones.

T. F. Bingham—I have doubled up over a hundred.

E. J. Oatman—We did not double up in that style. Was obliged to reduce six stocks to one, however—bees that were put in the

cold-frame and bumped their brains against the glass. Stocks that were perfectly healthy when put into the cold-frame hadn't a single bee left in less than two weeks.

Julius Tomlinson—How would it have worked to put bees in the "frame" in March and allowed to fly?

H. E. Bidwell—I tried about 80 at that time and injured them. Do not think it advisable. They should be put in in the fall.

Julius Tomlinson—Would not a single tier in a narrow frame be better?

H. E. Bidwell—I think it would be as well, perhaps better.

James Heddon—I have tried the cold-frame. A tree shaded one corner, and the bees tried to get out and cluster upon it. I think there should be nothing above the frame, except blue sky.

E. J. Oatman—Would the glass placed in a horizontal position give enough heat?

H. E. Bidwell—It would not.

James Heddon—Have had much trouble in having bees cluster on the glass in the cold-frame.

E. J. Oatman—By putting mosquito netting on the under side of the glass, I prevented clustering on the glass, and all attempts to commit suicide by bumping their brains out against it.

James Heddon—Have wintered fifty-one swarms in good condition and am at as much of a loss to know why, as I was when I lost so heavily, heretofore. I set them out in March, and they had a good two days fly. Think a partial fly only an aggravation. Credit my success in a measure to the Italian bee. Do not think that rearing brood early is desirable. It expends the vitality of the bees without a proper recompense. Do not use any quilts whatever. Prefer a good, plain board. They are less cumbersome, and I think, just as good. There is something more important than quilts that is at the bottom of our success. The same is true of ventilation. I have stocks in hives that are badly cracked, so that it snows and rains in them, yet they are strong and healthy. They are tough and you cannot kill them.

C. I. Balch related instances of how bees have wintered well in one season and nearly all died in others, under the same apparent circumstances. How can we account for it, unless it be a disease?

The next topic, "Building up Colonies in the Spring," was then taken up.

T. F. Bingham was called upon to give his experience. He said that in consequence of having met with a serious calamity, his usual buoyancy of spirits had departed, and he did not feel like talking. It's no use to build up colonies, except to have them die.

E. J. Oatman—Has any one used quilts stuffed with bran, on hives?

Julius Tomlinson—I have, and find they accumulate considerable moisture, especially at times in spring.

T. F. Bingham—I would advise you to send that item to *Gleanings*. A. I. Root has been trying to invent a watering-trough for his, and this, no doubt, will fill the bill. It can be used in connection with those beautiful tin corners. 'Tis just the thing.

A. C. Balch related his experience in rearing queens. Preferred to remove a queen from a full colony, and when the cells were nearly mature, insert them in other colonies. Queens should be started from larvæ not over two days old, less would be better. Exchanging combs is better than cutting out queen cells. Early in the season is a much better time than later.

C. I. Balch stated that he had eggs removed from inserted comb to other combs developed into queens. Some were very good, were prolific for nearly five years, while others were valueless. Have raised queens in October that proved hardy and prolific. There is a vast difference in different strains of stock. The only way to winter successfully is to make good woolen shirts and drawers for the "pets."

E. J. Oatman gave his experience in detail in getting worker combs built in the fall. Remove all brood combs except two or three containing capped brood, and fill up with empty frames. Fed a quart of syrup to each hive at night. Fed 500 pounds of C sugar, and obtained worker combs, 11x12 inches, at a cost of 20 cents each.

C. I. Balch—It has been stated as requiring 25 pounds of honey to make a pound of comb; Does it require as much syrup?

E. J. Oatman—I cannot state; only two or three hives built any drone comb.

A. C. Balch—Did the bees have any drone comb when they commenced building the comb?

E. J. Oatman—They contained none.

T. F. Bingham—Were the bees gathering honey at the time?

E. J. Oatman—Enough for breeding purposes, but not to store any.

Julius Tomlinson—What is your experience in getting comb from honey as gathered by the bees?

E. J. Oatman—Anything but satisfactory; have always got a too large proportion of drone comb. They do not build near as rapidly as they do when fed on syrup.

Julius Tomlinson—By taking away all full combs of honey I got worker combs built at one side of an upper story.

T. F. Bingham exhibited specimens of artificial comb, made of paper and coated with wax. Bees store honey in it readily.

C. I. Balch—Will they brood in it?

T. F. Bingham—I didn't ask so much of them.

James Heddon—I want to get an artificial comb that the queen won't look at, even. Such a comb would be valuable.

T. F. Bingham—To get honey, use a box to hold three combs, keep black bees, be careful to commence on the right day of the week, observe the changes in the moon, and if it rains honey and the bees don't get their backs up, we are all right; but if they do, ours are down.

A committee of three, consisting of James Heddon, T. F. Bingham and H. A. Knapp, were appointed to draft resolutions, when the convention adjourned until evening.

EVENING SESSION.

The association was called to order promptly at 7½ o'clock, President Bidwell in the chair. The first topic, "Extracted Honey," was introduced by a paper from James Heddon, of Dowagiac, who took the ground that we ought to discourage the production of every single pound of honey which costs 30 cents to produce it, that will be a drug on the market at 15 cents. He also urged that we should pay more attention to developing a good, reliable market for our products. The relation of the producer to the "exclusive" honey dealers in cities, was considered at length, with the conclus-

ion that if we are to make money in the apiary, we must get our surplus in small glass boxes, instead of waxed barrels.

T. F. Bingham—Dadant says that if honey candies, it's pure, but we can't always wait; glucose is made from starch, treated in a retort, with sulphuric acid; this can only be removed with lime; the addition of water will lessen the acidity; substances containing tannin added to it will turn it black, but not good syrups.

A. C. Balch—According to good authority our "golden-drip" syrups are largely adulterated.

James Heddon—All honey contains acid—formic aced—as is fully demonstrated by analysis.

Julius Tomlinson—Extracted honey is finding favor in my home market, though for profit, box honey is the thing.

A. C. Balch—Even if we are compelled to use liquid honey in making vinegar, it will pay; even for the good of the bees, especially in times of great honey secretion.

James Heddon—Extracting honey to give room in the brood chamber, is giving room for more honey, rather than more brood. While Italian bees are inclined to store honey in the brood chamber, we can coax them to store honey above and out of they way. Black bees are much better, however if we can only induce them to survive our awful winters.

E. J. Oatman—What would your black bees do in a "tough" honey season?

James Heddon—About as well as Italians, better early in the season.

E. J. Oatman—In times of scarcity I have had Italians rear abundance of brood and store a little honey when the blacks were losing ground.

Julius Tomlinson—I think Mr. Balch is right about the value of the extractor in keeping the brood-chamber clear of honey.

James Heddon—And keep your surplus out of the honey boxes at the same time.

A. C. Balch—Though bees don't know much, they are not fools altogether. Honey in the hive is detrimental to brood rearing in summer, and too much of it, to success in wintering. They will store it in the brood combs in excess of what is best for their own welfare.

H. E. Bidwell—If your combs get full, raise them up and let them store in empty frames below.

A. C. Balch—And always get drone comb.

James Heddon—If I am to get box honey, and they are bent on storing in the hive, then it follows that I must wait till the hive is full below before they will store above, when I haven't the bees to do it? Such logic hurts my theories of obtaining box-honey.

T. F. Bingham—We are told that the Extractor will save our bees; but, practically speaking, our bees have all gone to—well, a warm climate. Years ago, before there was any such thing, bees wintered well. Oh, that beautiful "honey-slinger."

James Heddon—Will Mr. Burch state if he is able to keep his combs full of brood and get honey stored in boxes without the aid of an extractor?

H. A. Burch—Even Italians, properly managed, will keep the brood below, and honey above, in boxes, and two, without any aid from an extractor.

A. C. Balch—If for no other reason than obviating troubles with the moth, I should prefer the Italian bee.

T. F. Bingham—I hope the President will rule out this Italian bee question. I have been maligned, abused and churned for daring to say a word derogatory of their merits. If Dadant hears of it he'll give us poor fellows "Hail Columbia." Let us avoid this mellow subject altogether.

James Heddon—Mr. Bingham should remember that he is at perfect liberty to express the opinions of the majority—*not* the minority.

A. A. Knapp preferred a hive that would admit of removing frames in the rear; thought preferable to lifting out of the top; frames are a foot square.

James Heddon—I once saw a hive on the "lake shore," while visiting H. A. Burch, that the frames came out at the rear; 'twas a nice rattle trap; it wants 26 yoke of oxen to remove frames when the bees stick them fast; have had "hive" on the brain; tested other people's hives, and experimented on my own delusions.

A. C. Balch—How would you swarm "artificially?"

J. Heddon—Drum out swarm, and put it on the old stand, removing the old hive; Use a shallow drum box with slats on the open side, and be sparing of smoke.

A. C. Balch—Oftentimes the queen don't want to go.

James Heddon—But we make them go; can get them in this way much easier and more speedily than by hunting for them. To be of value a process or implement must possess more advantages than disadvantages.

The subject of making a display of our products at the Centennial Exhibition was considered at some length. Various opinions were expressed, when the subject was finally committed to the charge of the President to act in the best interests of the Assoctation.

T. F. Bingham read a paper on the requisites of the successful apiarian. The subject was considered from a facetious standpoint, causing esnsiderable merriment.

A. J. Pope gave a description of Seth Hoadland's device for hiving bees. He also related instances of making bees cluster wherever desired by whistling for them.

Ezra Rood—I also tried the whistle—a regular pig-tail quirl—but failed to strike the key-note.

A member—A cluster of mullen heads attacks them quite successfully.

James Heddon—I wish to call attention to these honey jars from Charles Muth, of Cincinnati. They give the honey a nice appearance, and Mr. Muth is a perfectly honorable dealer, and liberal withal. Those in want of jars should patronize him.

H. A. Burch exhibited a sample of a very neat glass honey-box, made by C. R. Isham, Peoria, N. Y., which attracted much attention. It was universally admitted to be the neatest thing of the kind yet devised.

Considerable discussion followed, mostly of a desultory character, on topics, which we omit, the main points being embodied in the report of our last annual meeting.

Mr. Bingham, as chairman of the committee on resolutions, reported, tendering in very appropriate terms our he rt-felt thanks to the good people of Kalamazoo for the many favors which we, as a society, were

indebted to them for, which was unanimously adopted, after which the Association adjourned to meet in Kalamazoo the first Wednesday in December, 1875.

HERBERT A. BURCH, Sec'y,

Bee-Keeping and its Interests.

The following paper was read before the Outagamie Agricultural Convention, held in Bertschy Hall. Thursday and Friday, March 4th, and 5th, by A. H. Hart:

Mr. President, Ladies and Gentlemen of this Convention.

The subject given me for discussion before you at the present time is of so much importance, it seems a pity it was not assigned to some one better qualified to do it justice. Why I say of so much importance, because I consider the little insect and its products amongst the greatest blessings bestowed by our Heavenly Father on the human family, and yet perhaps there is no one more neglected or less appreciated. Perhaps I ought to say in America; it may seem strange that I make the exception, it is nevertheless true, that while improvements in most of the arts and sciences in this country exceeds many other civilized countries, yet from history it seems that most of them are far ahead of us in the science of Bee-Culture, and they are not as far advanced as they were centuries ago, if history tell us right. Bee-Keeping never flourished in any age of the world as it did from 1200 to 1600. During that time the true value of honey for food and medicine seemed to be well understood, or better than at any other time previous or even since, we may go back to Bible times and learn some thing of the value of honey as food and medicine also for religious ceremonies. It was used to pay tribute, among the first fruits for sacrifices, the Greeks and Romans brought honey as an offering to their gods, and every animal sacrificed on the altar was sprinkled with honey, it was used for embalming their dead and to sprinkle on their graves.

The Bible tells us in Genesis 43—11, honey was among the first fruits sent as a present to Joseph in Egypt by his Father, and Leviticus 2—11, honey was an offering but not be burned on the altar, Judges 14—8—18 Samson. Bees and honey he found in the dead lion's carcass, we all know what a disturbance Samson made among the young Philistines. There are some very singular passages in the Old Book. I will not take up your time to refer to but a few. Isaiah says a child shall be born, and his name shall be called Emanuel, Butter and Honey shall he eat that he may know how to refuse the evil and choose the good.

Matthew says another prominent personage was coming, whose food should be Locusts and Honey, we might infer from the language used that honey was a very efficient agent in the development of the intellectual organs. Numerous other passages might be spoken of, but we will leave them for you at your leisure to look up if you wish. We gather from history that about the 12th to the 16th century, Bee-Keeping was fostered by the government in which it flourished; in some countries it was fostered by the crowned heads, and their forests were called Bee-gardens. In some countries Bee-keeper's Associations were organized, and by paying large tributes were licensed to Legislate for their order; a member joining the order had to pass an examination, to see if he was qualified for a Bee-master, to use their phrase.

The disposition made of Honey at that time was as follows: First, second and third qualities—first quality was used for medicinal purposes and was hermetically scald and kept for that purpose. No. 2, was used for culinary purposes, and was the principal sweet for food. No. 3, was the poorer quality, and used for wine making. The question might arise here, Why has Honey lost its honored place in the medicine chest and on the table? I might answer the question by asking another. Why has the cultivation of flax on almost every farm, and the nice durable fabrics in almost every farm-house manufactured by skillful hands, I say, why has all this lost its honored place? The answer is easy, cotton, and the cotton gin, will tell the story, the linen manufacturer could not compete with the cotton manufacturer and gradually lost its place. Now, if a process was found whereby linen could be produced cheaper than cotton it is easy to what the result would be. A similar condition of things took place about the 16th century. Sugar cane was extensively introduced so that it became the principal sweet. The Honey producers could not compete; the organizations went down; the farmers no longer considered it a very necessary article to raise; they ceased to raise bees extensively. Those that kept them, or dealt in honey were inclined to adulterate it *as some dealers are now doing*. Consequently, the value of it was lost as a medicine, and finally it settled down to an article of comparative little value except as a luxury and *as sweet can be used too freely* the Old Book says it is not good to eat much honey, it is like other sweets taken too freely. Housewives with a little experience can tell you its value for food. But where is the man or the doctor that prescribes or druggist that puts up the prescription and uses honey as a part of the same, can tell you what the medicinal properties are of the honey generally in the market, and unless understood can the prescription be considered judicious. It is known that honey as gathered from the blossoms contains the essence of the medicinal properties of the herb, plant, or tree, that is gathered from and may contain a considerable narcotic, emetic or cathartic properties, and unless understood it is not safe to prescribe. Our ancestors, if we may call them so, understood this. They knew the quality of their honey and for what diseases should be used.

But perhaps there may be some doctors here that may think I am crowding the profession a little. It is not my wish to expose the ignorance of any man or class of men. I stated in my remark at the commencement that according to the history we had, honey was better understood for medicinal purposes from the years 1200 to 1600, than at any previous time or were since. But I have been showing you the darkest side of the picture. Now for the other; Bee men have reason to feel as St. Paul did when he came in sight of the three taverns, to thank God, and take courage; the signs of the times indicate a great reformation. The new process of working bees has already disturbed

the equilibrium of the sugar growers, in the State of Louisiana. There is already considerable inquiry how they can grow more sugar at the same expense, or to use their own language, "get a higher price or become bankrupt," a statement to that effect I saw in Louisiana paper. Now you may think me wild to assert that if the people were educated in Bee-Culture and were willing we could go into competition with Louisiana in producing sweetning at their prices. Even now in California quotations go below the prices on Louisiana sugar or syrup *and yet bees have hardly been introduced there.*

Formerly in Louisiana they had their labor performed very cheap. It costs more now; they must get more for sugar or go up the spout—their language. Our laborers work for nothing and board themselves; we only furnish them house rent. As Bee-keepers we have found out how we can produce the largest amount of honey with the least outlay—the sugar planter has yet got that problem to solve. We have our national association in good running order, state organizations doing work, country organizations to some extent and more in expectency, all calculated to forward the cause. Then again, we are blessed with the best standard works on Bee-culture. Journals by the dozen advocating and enlightening, with the experience of the best bee-keepers in this country, and from the old world. Besides state, sectional and country agriculture societies are offering more inducements at their annual gathering for the exhibition of apiarian products, and occasionally an opportunity is given for bee men to show up their cause in the best shape they can, at agricultural conventions.

We have, also, tested the different kinds of bees and found which are the best producers. We have an abundance of forage all over our vast domain if we wish to improve upon it. We have practical men in the business that we can pattern after—take one, for example, vis: Adam Grimm, if you please, and what he has done in bee-keeping others may do. He has made a fortune in a few years. He reported his product for 1874, amounting to $4,700, at the depot in Jefferson, besides several hundred pounds retained at home.

We have a report from San Diego county, California, that that county produced 400,000 pounds last season. No more than our county might do. A neighbor of ours bought last spring 16 swarm—increased six—and took 3580 pounds of honey, five hundred of it box honey. Your humble servant took 1205 pounds from six swarms, and four swarm increased. I would state that we both had the advantage of empty cards of comb, but an unfavorable season at that.

I have spoken of the bright side of our cause; but there are some dark spots on its surface, those done away with, and our success is nearly complete. We loose more bees during winter than by all the other disasters put together. Where only a few swarms are kept this evil need not be experienced, but on a larger scale it is somewhat expensive and a little uncertain.

Another difficulty and much the worst to overcome is to educate the masses that undertake to keep bees. I will state a case that will illustrate the condition of nineteen-twentieths of them. I was invited to talk to a gathering of bee-keepers in the State of Ohio; there was present some thirty. In the course of the meeting I was criticised quite closely, and when it came my turn to question, I asked, 1st, Has any of you got one of the Elementary Books on Bee-keeping? Ans. No. 2d. Do any of you take either of the Bee Journals published in the United States? Ans. No. 3d. Have any of you ever attended a Bee-keeper's Convention? Ans. No. 4th. Have any of you ever been humbugged by patent bee-hive venders? Ans. Yes, all of us. I told them they were just the subjects to be operated upon, in their ignorance.

Well, the result of that meeting was the organizing of a county society, and I sent for several bee-journals for them and occasionally now some of those members have articles in the journals giving their experience in Bee-Culture, that are very instructive and interesting.

Not long ago a gentlemen of the humbug patent hive stopped a few days in this city advocating a theory that the comb was not built by the bees, but was a fungus growth while the bees were gathered in festoon. He cheated several prominent gentlemen out of several hundred dollars on account of their ignorance of bee-hives.

It seems almost impossible to induce old fogy bee-keepers that are full of prejudice and superstition, to take a journal. It reminds me of the old Deacon that was a great stickler for the doctrine of election and reprobation—claiming that infants not elected must be lost. A friend of his, endeavored to prevail on him to give up such an eroneous idea. In reply the old Deacon said, I think it safer to rely on old established errors than adopt new truths.

Another quite a serious drawback on our cause, is the amount of adulteration going on that militates against the sale of the pure article of honey. It had been known for a number of years that syrup and honey had been largely adulterated, and at the national bee-keepers convention in 1873, the subject come up for discussion, which resulted in the appointment of a committee to investigate the matter and report at the next annual meeting to be held at Pittsburgh, Nov. 1874. The report of that committee showed that a large establishment in New York and another in Chicago, were engaged in manufacturing and distributing through the country a spurious article calling it honey. It is put up in cans with a piece of honey comb shown through the glass of compound composed of ⅛ honey and ⅞ glucose, an article manufactured largely in France from dried grapes, starch and refuse fruit, &c., &c. Those gentlemen adulterators buy and ship the article at a cost of about 6 cents per lb. Thus you see persons buying it that are not judges prejudiced against extracted honey and prefer to buy it in the comb when the facts are that extracted is in reality worth considerably the most, especially if separated at the time of extracting and canned and numbered according to quality. I will mention a case that you may see wherein bee men may suffer by the adulteration going on.

J. B. Harbison, the man that took the first bees around the Isthmus to California, is now the greatest bee-keeper in the United States, had this season two thousand swarms and shipped twelve car loads to Chicago and New York: at New York the adulterating gentlemen had the frankness to say to him, he would by his comb honey but did

not want his extracts for he could manufacture a cheaper and better article himself. So you can see something of its workings.

I have spoken of the encouragement we are getting from the different societies in the State, and this is nothing in comparison to what it ought to be. Look at the State of Michigan, and see what is going on there—no better honey producing district than Wisconsin. I think not as good. In their State Agricultural College the science of apiculture is taught as one of the branches of education. Its influence is being largely felt. There is probably more interest taken in honey-producing by the people generally than any other State in the Union, I might almost say than all the States; but, perhaps, that would be saying too much.

Now as to the condition of things in Wisconsin, for a number of years previous to '67, the State Agricultural Society offered quite a number of premiums to our fraternity, viz: on honey, hives and handling of bees. There was generally a good exhibition of honey and hives from which bee-men had the chance to compare and judge of the merits. But the handling of bees, for which the Society awarded for several years a *Silver Medal*, if we might exclaim, Oh! Humbug of Humbugs! Bee-charm and bee-handling was carried on until the man himself became disgusted with his own proceedings. The society withdrew this encouragement to apiarianism, down to a premium of two dollars on box honey. The consequence was that the bee and honey interest was poorly represented, but in looking the matter over, the society in their generosity has for two or three years awarded more liberally, for which bee-men are very thankful and larger favors will be gratefully received.

Now, in conclusion, I will say to those contemplating going into the bee business, that I know of no kind of employment that you can undertake that will yield you a better profit from the capital invested than bee-keeping with proper management. And on the other hand I know of no other employment you would loose your money sooner with bad management, for be it understood that negligence in bee-keeping is sure failure. I may be asked the question, for it is a very common one, what kind of a hive I would recommend, the movable frame hive.

That you may satisfy yourselves as to the best hive, ask General Adair, of Kentucky. He will tell you that the New Idea Hive is the one; that is only along one story, with sectional frames for comb building honey is the best—backing it up with his book, the annals of bee-culture. Or you may ask Jasper Hazen, of Vermont. He will tell you the Eureka Hive is best; because you can run it exclusively to box honey, and get more than any other hive, and is a non-swarmer. So you may ask Gallup, and he will tell you that his Twin Hive is the best, because it works on the New Idea plan of Adair's. And you may ask Novice or Root, they will tell you that the two story, Langstroth Hive is the best, because it is cheaper to work with the extractor, and will back it with his Gleanings, published once a month. You may ask Mrs. Tupper, she will or would a year or two ago say, that the Tall or American Hive, invented by H. A. King, was the best, seconded by H. King and backed up by the bee-keeper's Magazine.

I might refer you to numerous other hives that have been offered to the public but many of them without merit, but if you ask A. H. Hart what hive he thinks best, he will tell you the High Pressure, most assuredly, because of its simplicity, the ease with which it may be put in shape to work on either or all the other plans proposed in the other hives mentioned, and will back up his assertion with his circular that any of you can have by calling on him at any time during the convention or by afterwards writing.

One thing bear in mind, that a hive to fill the bill must admit of largely breeding up in the spring early—an easy adjustment of cards, that will admit of contracting or expanding to suit the size of the swarm, so no idling is done, a non-swarmer at will, simple and cheap in construction, etc., etc.

For the American Bee Journal.

Purity of Italian Bees.

In answer to Mr. Argo, who says, in the last number of the AMERICAN BEE JOURNAL, "If Edward Uhle is in Italy, then Uhle's queens, according to Dadant, are pure Italians." I have never received a queen from Uhle that was not a hybrid, and I will say that since Ed. Uhle is in the bee business, on his own hook, he inhabits Tyrol.

Tyrol is an Austrian Province, situated at the north of Adriatic Sea, and encircled with mountains on every side, but a small part, by which the river Adige runs from it into the sea.

To send pure bees, Uhle had to raise and to test them, with the same care, as we do in this country. No wonder, if so many American bee-keepers have no confidence in the imported queens; they were deceived by the European bee-keepers, who, except in Italy, are never sure of the purity of their stocks. Since they are, the same as in this country, surrounded with black and hybrid bees. In Italy, and in Italy alone, the bees are of undoubted purity, since there are no others there than pure Italian bees. CHARLES DADANT.

Shall We Continue to Import Bees.

A PAPER READ BEFORE THE MICHIGAN BEE-KEEPERS' CONVENTION.

Much has been written and said about the Italian Bee. Parties interested in their sale have imported often and done much to induce bee-keepers to believe they were superior to the common or black bees.

Various theories have been promulgated, from time to time, as circumstances required, to keep up the interest and augment their sale.

Such for instance, as that they would gather honey from red clover, and other like exceptional sources of honey supply.

Without presuming to affirm or deny the truth of these claims, I shall proceed to give some of the reasons why it is not judicious for us as honey raisers—which I presume we are—to encourage this promiscuous and constant importation.

The first is that there is great danger that we shall import with them the parasites and

diseases which have, or may exist in the country, they have so long inhabited.

To the casual observer this may seem of little moment, but when we realize that by this constant inter-communication of bees from one apiary to another, which is everywhere taking place, under the idea of improvement, we may well tremble at the consequences which may and perhaps have resulted from this promiscuous interchange.

That it is idle to longer continue this importation, no one can fail to realize when we consider that after nearly twenty years of trial, no man has been able to give any substantial evidence of even their purity—save that they were decendants of imported mothers.

It may be inferred that the Italian bees is superior to any and all other bees, but unless we can have some peculiarity to which we can anchor, some quality to select, some virture to propagate, we have before us an endless chain of confusion and expense!

What marks have we? What do the importers say? How do the Doctors agree? The only peculiarity of the pure Italian which their scientific bee culture has found worthy of attention and propagation is the so-called "Golden bands," with a certificate reading thus: "The offspring of an imported mother, pure fertilizer guaranteed."

Gentlemen I am not here to advocate the virtues of any shade of bees, it is of no consequence to me what manner of blood moves in my bees. My first and only important question is, will they work? If it is true that we are, and are to remain unable to propagate the Italian bee in its purity and foreigh excellence to say nothing of its improvement it is a national disgrace and a poor compliment to our *boasted .scientific bee-culture*. One will ask what shall we do when can we find pure Italian bees.

I cannot presume to say where they can be found, the savan of the A. B. J. says it is "common to find bees entirely black in pure Italian colonies in Italy."

Now gentlemen if this is the case we have plenty of pure bees in this country, that is as pure as Italians ever are! If I had a dark queen whose worker progeny had in the main three bands lighter colored than those of the black bee, and also had a more pointed abdomen, I should regard her pure. If her bees would work promptly in the boxes when there was a supply of honey producing flowers, I would select her for a breeder and raise my own queens from her.

On the contrary if I had a very yellow queen which produced very marked and *so-called "beautiful"* bees and they would not work promptly in the boxes, I would regard her as an abnormality, suited only to exercises in Dress Parade, and on no condition raise any queens from her.

The queens generally sold are from this class of albino. This extra golden color is what the queen raisers call their great improvement. I mean the improved Italian which sells so well. No other improvement has any cash value to queen venders, none of them raise much honey!

What I have endeavored to show is the utter folly of continual interchange of bees either among our own or foreign apiaries under the delusive hope of improvement.

Some people suppose that close breeding is injurious, and the queen-raisers ponder to the whim. If it is, how long will it take to find it out. Bees have been kept in Italy as long as we have authentic history, and yet no perceptable change has ever been recorded.

In stock breeding no real advances have ever been made except by in-and-in breeding. The famous Vermont Merino sheep were produced in that way, and it is said that all the successful breeders of sheep in Australia have pursued the same course and with the best results. While those imbued with the idea that stock deteriorated under close breeding and have spent much money to prevent it, have almost without exception ruined their flocks.

No strain can become fixed except by close breeding. Peculiarities in bee as in other stock may become fixed by close breeding in all probability. And with this view it is idle to look to queen raisers for valuable improvements. The hope of the honey producers lies entirely within themselves. "As the coming honey bee" must be a *honey gatherer*.

T. F. BINGHAM.

Abronia, Mich.

For the American Bee Journal.

The Winter (?) "Down South."

In this locality (middle Tennessee), bees went into winter quarters heavy with honey. They gathered from Wild Aster until about the tenth of November, hence, in cases where no extractor was used, the combs in the brood apartment were nearly full of sealed honey. Bees about here are all wintered on summer stands, yet I have not learned of any serious loss, though the weather has been unusually severe, the mercury 2 degrees below zero for a short time in an exposed place on the north side of a brick house. Honey came in so rapidly that I was unable to keep ahead of the 121 colonies I had to extract from, and a few of them were left until a warm spell between Christmas and New Years. All of my colonies wintered well, and commenced to gather pollen from willows February 23d. For about two weeks they have been getting some honey from a small yellow flower known as Bladder Pod. (*Vesicaria Lesecuria, Ord Cruciferae.*) The fruit blossoms are just opening.

Some of my colonies reared brood all winter, and since this has been "the severest winter known to the oldest inhabitant." I infer that colonies in the proper condition would do so every winter.

My conclusions are that in this latitude, the desired result will be attained if bees are put in the following named condition:

1st. In tight hives, entrance contracted to ½ an inch, frames covered with a good honey-quilt, and top story tightly packed with straw.

2d. "Chock-full" of bees when winter commences, and with a prolific young queen.

3d. The cluster in the center of the hive, with about twenty lbs. of sealed honey, arranged in the form of an arch over and around the bees, and with winter passages cut a little above and each side of the center of the brood combs, a single passage through the others.

Because bees will live through the winter here with little or no care, many deem that it is not necessary or that it will not pay to prepare each colony for its season of rest.

Knoxville, Tenn. FRANK BENTON.

For the American Bee Journal.

Successful Wintering.

I commenced the summer of 1874, with 19 swarms and run them to 82, and took 1,000 lbs. extracted and 400 lbs. of comb honey. I sold all but 59—14 of which were nucleus. I tried all ways of wintering to find which was the best. I wintered some in the celler under my kitchen; some in a tight clothes press in my chamber; some in an out doors cellar, and some in a snow bank. I found those wintered in the chamber, dry and in as good condition as when put in. Those in the cellar under my kitchen some what damp and mouldy, and some signs of dysentery, which I stopped by feeding pure white clover honey, in my cellar as they stood before I set them out.

Those in the out door cellar came out next best, and those in the snow bank in very poor condition. I lost one nucleus and one queen, but as I had extra queens I saved the swarm. The rest are all strong and in fine order. They will average from 20 to 25 lbs of honey to the hive. I am feeding rye flour, and I find they are storing it in their combs. I never saw it done before.

MRS. D. M. HALL.

Lima Center, Wis.

For the American Bee Journal.

Brood Raising and Artificial Swarming.

As the season is fast approaching when those of us who would have a favorable yield of honey or an increase of stocks should handle our bees with these objects in view. I have thought that a few notes on the above subjectsmight prove acceptable.

My best success in brood raising I attribute mainly to two facts. After reducing the number of combs in the hive, so as to leave only those which the bees can cover. I protect them with a woolen quilt, laying it over the top of the frames and also spreading it down over the outside combs to the bottom of the hive, and to further confine the heat of the bees I make a box frame (the exact size of the top of the hive) of half inch boards, three inches wide, then tack heavy muslin, or better still, woolen carpet on the lower edge of this frame, we have then a box three inches deep, this is to be filled with wheat bran or wheat chaff and used instead of a honey-board, the stock is now much better prepared for brood raising than if the hive was either filled with honey or empty combs. The colony being now in proper condition to hasten the increase of brood, to promote this desired object the best inducement I have found is to open the sealed cells of the honey remaining in the hive. I find that this is a greater incentive to brood-raising than feeding either honey or sugar syrup above the frames, (this to a certain extent evaporates a portion of the heat of the hive) further and still more beneficial stimulative feeding may be done by opening the sealed honey in a frame and placing it in the vacant space outside the quilt but under the box frame. This mode of feeding appears to have much the same effect upon the bees and queen that gathering honey from natural sources produces. The next important step is to furnish our stocks with honey as fast as the bees increase sufficiently to cover them, continue to do this regularly until we have returned all the combs which were taken from them early in the spring, and now after all these have been filled, we are ready either for surplus boxes, empty combs for the extractor, or for making artificial swarms.

But before we proceed to the important step of increasing our stocks, we should see that our nuclei for raising queens are in proper condition. To make an artificial increase we select two of our strongest stocks, from one of which we take all the brood combs except two, being careful to have eggs as well as brood and after brushing all the bees back into the old hive we place these brood combs at one side of the new hive covering the whole with a quilt similar to that used for brood raising, then carry the new hive to the stand of another strong stock, remove this stock to another location and place the new swarm on the stand formerly occupied by the strong colony. This should be done about mid-day or when most of the honey gatherers are in full flight. It will now be observed that we have the brood or young bees from the second stock. If we so desire it, this will conclude our labor of making our new colony, as, if care has been taken to furnish them with eggs as well as brood, they will soon provide themselves with a queen, but as this will retard our young stock in its labors and even place it in a less favorable condition than a natural swarm, we shall see if by a little proper effort we cannot place it at least twenty days in advance of its present condition and thus have it in full strength for the honey harvest, and just here we will observe the benefit of our nuclei before spoken of. On the next day after making our swarm (we say next day because the queen or queen cells will be better received) we go

to one of our nuclei and take from it a furtile queen, which after enclosing in a wire cage we place between two of the brood combs of the new swarm, this queen we can safely liberate after from 24 to 48 hours if the bees have not already done so and thereby deprived us of the pleasure; but should we find no queens in proper condition we then take a sealed queen cell cut from the comb in the form of a wedge, with the broad end above the cell, and this we insert in one of the brood combs in the center of the swarm, our only labor after this will be to furnish the hive with empty combs or frames as fast as the bees can cover them in a similar manner to that directed for brood raising. We have now completed the building up of our new colony, and it only remains to treat it as an old stock, either for honey gathering, or if the swarm has been made early in the season, we can in turn use it to furnish brood or a portion of brood for another new swarm. We should have stated earlier in our directions that the brood for a young swarm can be taken from three or four different stocks, instead of only one and with equally successful resuls. In this case there will be no visible reduction of any one of our colonies.

We shall now return to the old hive from which we took the brood for the formation of a portion of our swarm and in which we left only two brood combs. The leaving of young brood with the old stock, we consider an essential feature in artificial swarming, and for the very obvious reason that the young bees are the best nurses of the eggs and young brood which will be set by the queen much more freely than it would have been had the hive remained in the condition it was before depriving it of the greater portion of its brood. We think that none of our bee-keeping friends who have practised the method above given and also the one of depriving a hive of all its brood, will be willing to dispute the position we have taken, but will with ourselves have been forced to the conclusion that young bees as nurses are all important to the future success of the colony.

It will be seen that by adopting the foregoing directions, if the following season favors us with a good yield of honey, we will now have three stocks in proper condition for gathering a surplus store, and we shall not have spent many anxious hours in watching our bees only to witness the unwelcome spectacle of a swarm coming off late in the season, to leave us per-chance for th ewoods, or at most to be carefully fed to prepare it for the winter, and from which we cannot expect an ounce of surplus.

We have given what we have found to be the best manner of increasing our stocks, and should be glad in return to receive the narration of the successful practice of those who have been extensively engaged in this important branch of apiculture, and who are therefore more competent to teach the art than we are.

"B."

Beaver, Pa.

An Essay on the Size of Frames.

To the Michigan Bee-keepers' Society.

GENTS: Since the discovery of the reproduction of bees by Dzierzon, and especially since our beloved Langstroth has taught the best mode of constructing the frames, the American bee-keepers have made constant progress in the management of bees, and the inventors have struggled to get the most convenient hives considered as homes for our little pets. Among these inventors some have made mistakes, and have done more harm than good, while some more fortunate have hit the nail and are real benefactors of our bee community. But is to be remarked here that nothing has been devised having any value when compared with the long upper bar to support the frame, the absence of contact of the frames with one another and with the hive, and the movable honey board, Without these three conditions devised by Langstroth, no easy management of bees is possible.

If we compare the improvements with those of the old continent we see, in Germany, Dzierzon, better in theory than in practice, advising his adepts to cling to the movable comb suspended under a top bar in place frame. Berlepsch, the most learned bee-keeper of Germany, using a two or three story hive whose frames are pulled out by the sides; and the most advanced bee-keepers of Italy trying to improve the Berlepsch hive, while in America we are furnished by Langstroth with a hive combining those three qualities without which there is no good hive, the frames independent of one another suspended at the top, and the movable honey board.

Few American bee-keepers would today dispute the necessity of these three requisites of a good hive. Let us then discard all the inventions which dispense with one or all of these three distinctive features of the Langstroth hive.

But if we, all, or nearly all, agree on these points, we are yet far from agreeing as to the size of the frames and their

shape. Some want a large number of small frames, while others contend that a small number of large frames is better. Some adhere to frames higher than long, while others want square frames, and still others, true disciples of Langstroth, prefer the shallow frame.

All these sizes, all these shapes, have given good results, according to circumstances, but the question is not "are all sizes and shapes good?" but "is any given size and shape better than others, or which are the sizes and shapes of frames which compared with each other will give the most profit?" for in bee-culture as in every other business, it is the net profit which is our object.

Reading the writings of American bee-keepers leads me to conclude, first, that the frame longer in height than horizontally, offers too small a space in its upper part to place a good number of boxes or surplus frames, besides the frames are more difficult to remove from the hive on account of their height.

For a long time I had considered the square frame better than the horizontal, but after using both shapes in my apiary for years, I have become fully convinced of the superiority of the latter. In spring, the bees between the combs form rings more or less compact, more or less thick according to the weather. These rings which encircle the brood nest, serve to maintain the eggs and larvæ at a degree of warmth indispensable to their development. As the heated air rises continually in the hive, the rings are deeper and thicker at the bottom than at the sides, thicker too at the sides than at the top. The nurse bees travel easily over the vacant space inside of the rings, and the queen goes over all the enclosed surface hunting for empty cells to deposit her eggs. When she approaches the ring, the bees retreat before her and she can lay her eggs in the empty cells, but soon the bees, on account of cold cannot give the queen the place needed by her, the receeding ceases sooner at the bottom than at the sides, and this is why if we examine a comb occupied by a brood in spring we find it invariably larger horizontally than vertically, its bottom being always flattened. Thence the predilection that many bee-keepers entertain in regard to frames longer horizontally than strictly square.

Besides, for the same motives, a large frame is more convenient than a small one. In a hive containing many small frames, the same surface of brood needs more bees to encircle it, than in a hive whose frames are larger. By actual account, I have found that a square frame 12 inches both ways, needs 15 per cent. more bees to encircle the same amount of brood than in a Quinby hive whose frames are larger, being 18 inches long by 11 inches in height. I have both sizes in my home apiary, more than 50 of each. I examine them carefully every year, and I have arrived at the conclusion that a horizontal frame is better than a square frame, and that the less numerous the combs are in the hive for the same amount of room, the better it is for the bees and their owner.

Last year I had an equal number of each of the sizes above related; by the first of June my best colonies in Quinby hives had above 10,000 cells of brood more than my best colonies in square frames. I think, in consequence that the greater area of comb of ever frame had something to do with the greater laying of the queen. In the French bee-keepers journal "LeApiculture" for March 1873, a gentlemen is cited who had a colony of bees whose queen had laid more than five thousand eggs per day. The hive had frames 16 inches both ways.

As another proof of the advantage of large frames, I can say that when I have colonies in my nucleus hives, the queen although enjoying the same surface of combs, does not lay as much as if put in a Quinby hive, the combs of my nuclei are half as large as those of Quinby, being the Quinby frame divided in two parts and reunited at will. Leastly, another proof of the superiority of the large frame has been given to me recently by my friend L. Abbie Sagot, a well-known French bee-keeper, whose hive has small frames; he writes me asking how I manage to prevent the queen from going in the surplus boxes. Although his hives are very large, the queen goes so often in the surplus boxes that he experiences a considerable loss, and he consulted me about the propriety of having the top bars of his frames made of cast iron and so near each other as to prevent the queen from going in the boxes. With my large frame I have very rarely such laying of the queen in the boxes; two or three per thousand at most would cover all my loss on that account.

From all the above, it results that the large frames spreading horizontally, are to be considered the best. Our friend Langstroth, had preceeded us in that way when he divised the frames of his hives. But in my opinion, his frame is too long when compared with its depth. And I know many of the most eager partisans of the Langstroth hive who think of advising the beginners to cling to the prici-

ple, but not to carry it so far. Among these bee-keepers, and first on the list, is our friend Novice, who, in his last *Gleanings*, gives the preference to a frame 13 inches long by 11¼ deep, which size he offers to the American bee-keepers as a standard. No doubt a standard frame, adopted by the American bee-keepers community, at least by all the beginners, would be an excellent step, a step in the right direction, for it would lead all of us sooner or later to a very desirable uniformity. In Italy, the central bee-keeper's society agreed on the length of the upper bar of the frames as standard, and that measure led to a complete uniformity among the bee-keepers of the entire Italian peninsula.

Nobody can deny the advantage of such uniformity. By it the interchange of hives or combs, or honey we are easy from one apiary to another ; for instance, some districts in Italy abound in honey of first quality, while some others give only fern honey which besides being of poor quality, cannot be expelled from the combs by the malextractor. The bee-keepers of the good honey districts empty all their combs and replace the honey by purchasing combs of fern honey, this purchase would be impossible if the frames were of different sizes as they are in this country.

We are often prevented from purchasing stocks from our neighbors on account of the different shape of their hives, for fear that we should get two different sizes of frames in the same apiary.

Germany and France envy the uniformity of the Italian hives, but have not yet taken steps to imitate their neighbors. Like us, they have too many different sizes to see a standard adopted, and it would also be very difficult to point out the shape and size to be preferred.

We here have nearly as many sizes as inveniors. Yet all can refer to four or five, the largest being the Quinby which has only 8 frames for the same surface as 10 Langstroths or 11 Americans, and the smallest being the Gallup frame.

If it is stated that the larger the frame the greater the laying of the queen, the only thing to ascertain is, "which should be the extreme surface, taking in account the weight and the solidity of the comb." I can speak of the Quimby frame from experience, having managed it for ten years. It is not too large nor too heavy. Its surface is equal to 200 square inches. I think consequently that a standard frame should not be inferior to 200 inches or larger than that. A smaller frame, say 150 inches square, is, in my opinion, too small, for the hive should contain eleven frames for the same surface of combs. Now, as it is more expedient to remove 8 frames than 11, the bee-keeper runs less risk of being stung, and the robbing is less to be feared. Some will contend that so large a frame would not do to raise queens. But the raising of queens for sale is a specialty, an exception, a need of our epoch of transition, but it is not for an epoch of transition that we want a standard frame. It is for the majority of the bee-keepers and for the bettering of our crops.

To conclude, I will say to the American bee-keepers, to those who have two or more shapes in their apiaries, especiall to those who have many of each size, examine your hives, see which give the best results, and report through the journals.

After some years, the bee keeper's community will be enlightened by the discussions, and then, *but then only*, will be apt to choose a standard which will comply with the ieterests of the bee-keepers and the instincts of our useful insects.

Hamilton, Ill. CHAS. DADANT.

For the American Bee Journal.

Honey Adulteration.

A great deal has been said about the adulteration of honey, glucose, etc., but the subject is far from being exhausted. I have learned to know the article of late, and will give my experience. It may serve to put on their guard a few honest bee-keepers and a few fair dealers.

Glucose is grape sugar, the next relative to honey, derived from corn in this country and, principally from potatoes in Germany and France. Glucose made of corn is the lightest and made to serve the purpose. It is thin, or thicker of the consistency of honey as it is dry sugar. It is bought, principally, by distillers, brewers and "honey dealers." So I am informed by the agent of the manufactory in St. Louis, Mo., who lives in this city and with whom I am very well acquainted. .I send you with to-day's mail a sample of the dry grape sugar, and a small bottle of the glucose which is used for the adulteration of honey. You will find it of about the same thickness, transparency and color of honey, you will find also, that it mixes with honey very easy. Being of good taste and not having any particular flavor, it does not spoil the flavor of the honey but partakes of it very readily. It diminishes, however, the acid of the honey. At least, so I find it. It is a pity that adulterated honey cannot be told

more readily! It will seriously damage the honey business, as consumers will become suspicious. Almost the only safeguard to consumers is the reputation of the dealer. I cannot warrant the purity of my honey any more if sold by another party, except it be in small packages with my name on every one.

To illustrate: A friend, druggist, buys his honey of me because, as he says, he believs it to be pure and——because he wants to do his own "mixing." He did not believe that I was able to pick out my pure from his mixed honey, and invited me to come to his store for a trial. I went and picked the right jar, but, as stated above, I did not miss the flavor and almost not the trasparency and color, but merely the "acid" in the adulterated honey. His mixture was one part honey and four parts glucose. Glucose is worth 7½ cents a pound in Cincinnati. It can be had light, like the sample I send you, and of the color of nice clover honey and in any shade darker. Glucose crystalizes with the honey. It should be an object to every bee-keeper and especially to the editors of every bee journal to post everybody in regard to the matter. Honey should always be sold by its proper name, and the consumer should be taught to understand that the quality of the honey is determined only by the source it is derived from. I was astonished sometime ago by one of our prominent (?) brethren who maintained that sugar syrup, after it had passed through the honey sack of the bee, was as good honey as any. Our friend gets sometimes large crops by mixing a few barrels of coffee sugar. Next season, I suppose, glucose will help him out.

Cincinnati, O. CHAS. F. MUTH.

For the American Bee Journal.

A Student of Billings.

Sum folks wont hav eny frame unless it's 12x12. I gess it would doo, and hold as much, if it was 18x18 or 9x16.

I have hear a man yell just as far when an Italyen stings him as if it waz a black or hybrid.

Sum of my friends like tu look into a hive with their fases all bare; which it is fun enuf for me tu stand behind some muskeeto bar when I look in.

Experiense iz a skool where tuishun iz hy, I went awhile. In regard to a smoker, I made my own, of a tin box and bellos of oil-cloth. The tryal trip, the snoot kum off, bu unsodering, and I was trod under foot bi a bee. Then I bot Quinby's.

Mr. Langstroth gives a very sientifik description of a bee's sting. I liken it to an irate insekt sitting on your fase, with a needle in his pantz. P.

For the American Bee Journal.

Candied *vs.* Liquid Honey.

If my friend Argo was surprised in reading my article on candied honey, I acknowledge that I was greatly surprised in reading his. I have never seen pure honey remaining liquid all winter. This is why I have written that all liquid honey in winter is an impure article; or at least an article which, by heating, has lost a great part of its quality. I have never tried the plan proposed by Mr. Argo, although I came very near it; all the difference being that my honey was not put in a room altogether obscure. I will try it this year and report. If it works with me as it did with Mr. Argo, I shall regret it, for the bee-keeper will have lost the most easy means of testing the purity of honey. Besides, liquid honey is always more apt to sour than candied honey.

Hamilton, Ill. CHAS. DADANT.

P. S. Mr. H. Burch, in his "Money in in the Apiary" accords with me, when he says, that we ought to teach consumers that a granulated article is better, besides being absolutely pure.

For the American Bee Journal.

Adulterated Honey.

I see, in the report of the North-Eastern bee convention, that steps should be taken to obtain from the Legislature, a law making it a misdemeanor to affix the name of pure honey on a spurious article. I think it would be a move in the right direction: To help it, I will say what the laws of France are against the adulterator.

Twice every year, at irregular intervals, a sanitary commission, formed of three honest and learned doctors and chemists, visits the groceries, the drug-stores, the bar-rooms, the coffee-houses, the galleries, confectioneries, breweries, &c.; in fact all the stores and manufacturers of eatable products. All the Products and matters are carefully inspected. If some seem spurious, or impaired, by age or otherwise, they are analized. If proved adulterated, they are destroyed and the adulterator is heavily fined and sometimes condemned to jail.

The protection of law extends further yet, for each article of jewelry, before going from the shop to the store, must be assayed and coined. If the quantity of alloy exceeds the allowance permitted by the law, the jewels are hammered.

All the weights and measures, in all the parts of France, are also inspected twice every year.

Such protection, against frauds, would be beneficial to this country; even if copied from *immoral* France.

I want to ask Dr. Bush if he intends to apply this word immoral to me or to my native country. If to me, I will beg him to cite an instance of my business or other immorality. If to my country, I find that the opportunity of accusing France of *immorality* was very ill chosen, by him, since we were after a means of preventing the American dealers from adulterating honey; the laws of *moral* America being void against such frauds.

I think it is unnecessary for me to tell from what the anger of Dr. Bush came against me. He had a reeeipt, to prevent honey from candying, for sale, (see A. B. J. 1874, 286) and I have hindered its sale.

I persist in saying, with the most of the bee-keepers present to the N. E. Bee-Keepers' Convention, that the best test of pure honey is its candying, glucose is not honey, neither in appearance or in taste.

I will add something to the great learning of Dr. Bush: glucose is not made with grape juice. French people drink or sell their grape juice and maufacture glucose with potatoes. C. H. DADANT.

How My Bees Wintered.

I put in my bee-house 80 swarms, 23 nucleuses or small swarms, containing pure queens, and put a small quantity of bees that I wished to try the experiment of wintering and build them up in spring, and two hives containing pure drones without a queen and with scarcely any worker bees. The way I got my two hives filled with drones exclusively, was by inserting drone comb in strong, pure stocks, get them filled with eggs and brood and then place them in the queenless stock, continuing in that way until I had two strong swarms of drones. That is the way to Italianize in the fall after all black drones are destroyed. By this process, you can keep all your stocks pure, even though you are surrounded by black bees.

The two hives of drones died before spring, I suppose with old age, and also one of the nucleus that I made a few days before I put the bees into winter quarters. It being cold at the time, I suppose they failed to cluster properly, and there not being a pint of bees, I do not expect they saved them, thus leaving me 102 swarms to put out in good condition. I got eight persons to help me put them out on their summer stands. We did it in about twenty minutes on March 31, it being a very warm day, and they opened the entrances larger than needed. Four nucleuses swarmed in the excitement, and went to other hives, leaving me 98. Now I would advise not to set all out at once, if they have a large number, put out every second or third hive; then place others between after the first have had their fly, keeping them at least six feet apart. Mine flew so thick that some of the bees got lost, and went to the wrong hives, so some hives got more than they should have had while others were left weak, thus necessiating changing hives and equalizing a number and then not having them as equal as when set out. All appeared to have the same smell and no quarreling ensued. For a few days my bees seemed satisfied with any queen or any place they were put, after I got them equalized, my next work was to adjust the division board, giving them only as many combs as they could cover, breeding went on faster when the queen got the combs well filled with brood and eggs. You can repeat the operation every few days until the hive is full, but be careful to select combs containing pollen, as broods cannot be raised without it, in early spring plenty of pollen is of more value than honey.

After giving them space in proportion to their strength, I then cover the quilt with old newspapers; they keep in the heat, and breeding goes on more rapidly.

Keeping them warm is very important, also keeping the entrance so small that only one or two bees can get out at a time. When I put them in the bee-house I removed the covers, leaving only the quilt on the frames, close the entrance to half an inch, then all the old and sickly bees have their time to die, it being much better to have them on the floor of the bee-house than in the hive. After removing all the hives, I swept up all the bees that died during winter, and they weighed 12 pounds. It takes 7,000 dead bees to make a pound. So 84,000 bees, in all, died during winter, which is 800 bees to each stock. But when we remember that two swarms of drones died, and were included, I suppose the average was not much over five hundred bees per stock, which, I think was quite replaced by breeding while in winter quarters.

The average consumption of honey per stock, was about 5 pounds, and they were over 4¼ months in winter quarters. Some stocks with natural stores, showed

some signs of dysentery, while those fed on sugar syrup seemed the strongest and healthiest. If any person can invent a machine to make good artificial combs that the bees will use, I will buy a right if it does not cost more than five thousand dollars. D. A. JONES.

Tecumseth, Ont.

For the American Bee Journal.

A Sad History.

Quinby says, give us both sides of the question. Well, here it is, although it makes me sick to think of it. Six years ago I commenced with six stocks of Italians, with black bees all around me. One man about ¼ mile from me had 30 stocks, another two miles on the other side, had 20 odd, and another 21.

The summer of '69 was very wet and cold, and bees stored very little honey, by feeding, I kept all mine through the winter of '69 and '70, and came out with 13 stocks, but one lost its queen which left me 12 to begin with, while my neighbor had his original number 30. The summer of '70 was an extra season, and I increased to over 40 ; wintered in cellar all right ; '71 increased to over 70 stocks, when I was ahead of any of my neighbors. Built a bee-house which cost about $200.00.

But instead of wintering as formerly, I removed the honey board on putting them into cellar and bee-house, left caps on and lost over half, having but 35 stocks left to commence '72 with. This is a part of the dark side ; as I was teaching in this village at a salary of $750.00 I was able to stand it and thought I learned that year more than any of my pupils. I read an article in the April No. of the AMERICAN BEE JOURNAL by Mrs. E. S. Tupper, which confirmed me in the belief that too much upward ventilation was the cause, or (as Mr. Quinby calls it, *cold* was the cause.)

In the winter of '72 and '73, I removed one slat from honey board and put in cellar and bee-house, and came out all right, although the winter was very cold, so that more than half the bees around me died. I liked the cellar the best because it was warmer in winter and cooler in summer. The summer of '73 my bees did not swarm much, but did well gathering honey, for this locality, averaging over $7.00 a hive. I sold my honey at my bee-house for 30 cents per pound ; the buyer crating it.

In the winter of '73 and '74, I wintered 65 stocks as described, and did not lose one, sold two. Had a cold spring and bees did not do much until after the middle of June, when the honey season commenced, soon after swarming ; and then there was nothing but swarming and partially filled with boxes. The basswood blossomed on the 12th day of July, and lasted till the 25th ; on which day my first swarm of the season sent out a large swarm, but a storm the next day wound up the basswood.

My rule was to put four small swarms in one hive, and one or two with a strong one, by which means I had strong stocks. I had a stock or (swarm) hived the 17th of July, fill 10 frames 8x16⅔ inches, inside measure, and from 10 to 15 pounds in eight days. I had the nicest apiary in this part of the State, and put them away as usual (12 stocks) half in bee-house and the rest in cellar except one in double walled hive which I wintered outside.

My cellar is generally too warm for fruit and vegetables, but froze some last winter, and bee-house a good deal. Took bees out of house in February, and let them have a good fly, found three dead, put them back as soon as the winter became cold.

On the 30th of March, the stock outside was carrying in pollen, I got help and carried out of cellars, &c. Hives heavy, and most seemed to have plenty of bees, I remarked more than usual. We had one week splendid weather, and we were joyous, (the bees and I), but after they had been out 18 days, a change came on, but we thought every day would be the last. But alas, we were mistaken, and when warm weather came, I found my apiary ruined, and with it all means of support cut off as I have poor health and a crippled right hand. Some froze to death, but a great many came out of the hive and united with others, and of course, many were slaughtered.

I am nearly discouraged ; a thousand dollars would not make me good. I never lost any before, after carrying out. I have a house and lot which I cannot dispose of at present without sacrificing half. I love bees and dislike to give them up.

Will some one answer the following: Is Southern California the best place to go to keep bees for box honey? Will the honey raised there sell well in our market? What can Italian bees in Langstroth hives be purchased there for? What would be safe estimate (net cash), per hive box honey? Could I go in there, a stranger, and find a location without difficulty? What is the expense of shipping honey from San Diego to Chicago? What the address of Editor of *California Farmer*?

I find a difference of opinion, as for instance: H. Goepper, in the July No.

Bee-Keeper's Magazine for 1873, makes quality of honey very poor, while he says the country is no better for quantity than Ohio. I think he is as he says, in a poor locality. (Santa Clara Valley.)

J. W. Montgomery, of San Bernardino, says: "I am satisfied that the poorest honey we have will compare with your best basswood." That is good enough, for I sold mine last fall in Pittsburgh, Pa., for 33 cents per pound.

Brother Ives says come to Austin, Texas, but does not say anything about the quality or price of honey there. I want, if I move, to go to some warmer country and among a friendly people, as I must leave my family here at present. If I engage in the business alone, I will have to work bees for box honey, as I cannot handle frames well. I have a neighbor who offers to furnish capital to start a small apiary and divide profits, but he is Texas inclined, while I am California inclined.

How much of an apiary of Italian bees could I start for five hundred dollars?

Westfield, N. Y. H. B. ROLFE.

For the American Bee Journal.

The Peabody Extractor.

MR. EDITOR: I was both surprised and pained to see that friend Peabody had put my name among the testimonials in favor of his extractor in your May No. Had he given the date of that letter, it would not have been so apt to mislead, but even then, after the correspondence that had passed between us on the subject, I cannot but think it unkind. In 1870 we took about three tons of honey from 48 colonies, with a simple home-made extractor, and one of the girls then in my employ in the jewelry business, undertook it as a kind of recreation, did it all, and found it "just fun." In the spring of 1870 Mr. Peabody made me a present of one of his extractors, and I was so much pleased with it that—after a very hasty trial—I purchased, I think, a half dozen. These were sold so quickly—upon my recommendation—that we sold also the one presented to us and used our old one during the season. In the spring of '72 I purchased one dozen, at $11.00 each, of Mr. Peabody, and sold a part of them, and when the honey season opened we prepared to use one of the Peabody machines, and in fact sold our old one for $5.00, as Messrs. Fay & Winder had sent us one of theirs, also. Well, Miss A. commenced with the Peabody machine, but it took all her strength to get the can shirling up to the required speed, and *more* than her strength to stop it as quickly as she had been doing. She declared she could not use it. I at first stubbornly insisted that it must work as easy as the old one, but on trial found my mistake. We then tried Gray & Winder's, a revolving can machine, also, and found it but little better. The honey was coming in, and what was to be done? We were needed in the shop and apiary both, but rather than to use the revolving can one more day, we went to work and built an improvement on our old one. That one now does service in our apiary, and is light, easy work for a woman to use. The Peabody machines we sold can be made to do, if a man uses them, but most of them are laid aside, and all will be soon. The half dozen we had left we sold at $7.50 each.

The letter Mr. P. extracts from was written after that first hasty trial, and, if we are correct, we added something that he has seen fit to clip off, in this, however, we may be mistaken. As soon as we saw our error, we wrote him entreating him to make a stationary can machine, as we did also Gray & Winder. And when *none* of the makers of extractors would furnish a stationary can machine made all of metal, like the one we have described some years ago in these pages, we had no choice but to make them ourselves. But when we objected to the revolving can machine so vehemently, we had no thought of ever engaging in such business. With a sincere desire that none of our friends may invest in implements that may prove a disappointment to them, and that every one may be fairly represented, I remain, as ever,

Your old friend, NOVICE.

For the American Bee Journal.

Hives for Farmers.

I am pleased with the AMERICAN BEE JOURNAL. Its monthly visits are gratifying to me. I read all its communications with interest; whether according to my views or not.

C. R. Isham's communication in your May number on "Patent Hives and Venders," I hope will be re-read by vast numbers. It is certainly amusing to read very stringent articles against patents, in patented books. No doubt the public are often imposed upon by patented articles, articles that are useless; and also by useless articles that are not patented. Every one must judge of the value of an article from its characteristics, and use. No one, very wise, would buy

an article simply because it is patented. But no wise farmer would take his scythe and whetstone and go into his ten acre mowing field, and sweat a week to cut it down, when he could avail himself of a mowing machine and cut it in a few hours, simply because the mowing machine is patented. I have seen the time 80 years since when in my father's yard two long rows of straw hives were standing in my father's apiary; and in the proper season, a selected portion of them were placed over brimstone matches, smothered and the honey some side combs and top, white, well filled with honey were laid away carefully in pans, saved for table use. The balance of the honey strained and saved for use, or metheglin; and the comb converted into merchantable wax.

Since that time and in some places before, box hives of wood have been introduced in various forms and differing in size. The simple box with two or four honey boxes upon the top. The chamber hive, with boxes in a chamber over the colony. The suspended hive. Cotton's large non-swarmer. The hive in the dark chamber.

The invention of the movable comb frame by the Rev. L. L. Langstroth, affected an important improvement in the business. Many have availed themselves of this improvement, and few new hives are now constructed where this improvement may not be available.

Another improvement or characteristic in hives is the introduction of small surplus boxes or frames of an aggregate capacity of 100 to 200 lbs. of surplus. Mr. Quinby, in the first edition of his work recommends this small box hive, which, he assures his readers, will give as much surplus and in as good shape for market as any hive, and shall cost them nothing for patent. He has since adopted a hive of the latter class with large surplus box room, and publishes in a late paper that he and quite a number of bee keepers, in a field 20 miles square have averaged 100 lbs. of surplus to the colony, on the same field where to his knowledge the surplus did not average over ten pounds to the colony, in the box hives he has previously described. It is certainly a large gain, 100 lbs. now, to where 10 lbs. only was averaged before.

In abundant surplus room alone can abundant surplus be secured. But I can give but hints here. I will send a descriptive circular to any of your subscribers, who will send address and stamp.

JASPER HAZEN.

Woodstock, Vermont.

For the American Bee Journal.

Notes on Bee Culture in France.

[Translated by Chas. Dadant, Hamilton, Ill.]

Our forefathers held the honey bee in great esteem. Notwithstanding their ignorance of certain facts, which were only known since the beautiful discoveries of Reaumur, Huber, and others, they kept their apiaries very carefully.

They assimilated the bees to the persons. At the death of a member of the family, they placed on each hive a piece of black cloth as a sign of mourning, indicating that the bees were intelligent beings, able to understand the loss. When passing before the hives, when taking care of them or gathering the honey, it was expressly forbidden to use any rough words or expressions, or to swear for fear of seeing the bees leave their hives forever. Lastly for the same motive, they never would *buy* bees, but they *exchanged* them for a *louis* of twenty four pounds or a *setier* of rye. Occasionally the owners of apiaries rented them under the condition of dividing the profits and increase. In such a case the renter of the bees had them in his charge and was bound to feed and watch over them and govern them as he would his own. The honey and wax was divided in equal shares, but the hives could only be robbed in the presence of the owner. The swarms that were gathered were given at the same rates. In this country the barbarous practice of smothering the bees with brimstone, was never known. The harvest was made by pruning the combs, and the old people of the present day still remember that the operators in this line were more skillful and more careful than now.

The time of pruning was a happy day for all the children in the villages. Each received a slice of bread and honey and a glass of honey water, and each of the less fortunate neighbors were treated to a plate full of honey.

From the bees and apiaries let us pass to their products, honey and wax.

In our researches among old titles, we find everywhere the indication of revenue in honey and wax. The chronicler of *Puy Etienne Medicis* tells us that among the bishop's revenues there were five jars of honey. He neglected to tell us of the size of these jars. They were probably somewhat like the barrel of which they speak in the old laws of *Auvergne*, and which was valued at 35 *sols*, when a sheep and its wool was only valved at 5 *sols*.

At that epoch, as during the middle ages, honey was preferred to sugar for the preparation of most sweet meats. This preference was not based, as one might at first believe, on an economical motive; for such a motive is a small obstacle for gormands, but it was simply because they found that honey gave better relish to the dishes in the preparation of which it entered. Honey was thus for all, rich or poor, a real delicacy. They ate it pure at certain epochs of the year, and until the seventeenth century it was considered as the preferred food for Lent; this is explained by the nutritive properties of its azotous formation.

Honey was used, besides, in an infinity of ragouts, preserves and pies, and served in the manufacture of liquors and wines known under the names of *vinous metheglin*, or of *common metheglin* which had been in use for centuries.

Shall I expatiate on the role that honey plays and played in medicine and in pharmaceutic preparations? In our villages, honey is almost always employed in place of sugar in teas, and the sick do not complain of it, as it renders the beverages better and more digestible.

We have found in an old work, that honey was used as an antiseptic for the preservation of bodies, and this use seemed to us to be curious enough to be selected here: "I have seen in *Auvergne* at the house of a surgeon of *Aurillac*, the body of a man kept and preserved entire with its muscles, without any alteration, daubed and covered with honey."

If honey was sought for, wax was not thought less of.

The middle ages with their religious ceremonies, in the churches where closed windows gave but a faint and dim light, required an enormous amount of wax. The lights of the torches and of the wax candles, shining in atmosphere perfumed with incense, heightened the looks of the imposing ceremonies of the Christian creed. The custom of lighting candles in daylight, signified the joy, the charity and the light of the truths unravelled to men by the preaching of the Gospel.

TO BE CONTINUED.

D. A. JONES, Tecumseth, Ont., writes that some have sent to him from the U. S. for extractors, but as it costs so much for duty, &c., it does not pay to send them.

TO PRINTERS.—An eight column Foster Hand Press for Sale, cheap. For Particulars address, Thos. G. Newman & Son, Cedar Rapids, Iowa. 4tf

Sundry Questions Answered.

1. Will a colony of bees winter without bee-bread?

2. Can they raise young bees without it?

3. Can they raise young bees without water?

4. Will moth eggs taken out of the hive in November and put back in March, hatch?

5. Does the the extractor injure brood?

6. Can bees hear?

7. How far can a bee see?

8. Do the same bees that gather pollen place it in the comb?

9. What size meshes in wire cloth will allow the worker bee to pass through, but not allow the drones and queen?

10. How long may eggs remain in a hive before hatching?

11. Will honey extracted before it is capped sour if not sealed air tight?

12. Will it injure it to heat it for sealing? Please answer the above questions.

Gosport, Ind. JOHN S. LINGLE.

1. A colony of bees may be wintered without bee bread. We have tried it, wintering on sugar, candy and syrup, without either bee bread or honey; but in the spring pollen is indispensible; meal is a good substitute.

2. They cannot rear brood without it.

3. Young bees are raised without water in the winter, but we think moisture which accumulates is used in place of it. When much brood is reared, water is indispensable.

4. Moth eggs will not hatch if kept out of a hive all winter.

5. We think the extractor, *as generally used*, does injure all unsealed honey. It may be possible to use it without killing it, but we find in our hives, as a rule, no more honey in combs containing sealed brood than that brood will need for its use; therefore do not extract from such combs.

6. We cannot be sure, but think they do.

7. We have no means of telling how far a bee can see.

8. We think they do generally, but have often seen bees removing the pollen from the baskets of loaded bees.

9. Worker bees vary much in size and drones also vary. Queens vary still more.

10. We cannot say, but are sure that the temperature of the hive has something to do with the length of time eggs remain without hatching.

11. We have never had any sour honey, but cannot say that it will not sour in some conditions of the atmosphere.

12. We think it does injure the flavor to heat it.

If any one has different answers from these to give to either of these questions, let us hear from them through the JOURNAL.

Voices from Among the Hives.

A. H. HART, Appleton, Wis., writes: "I have to report a loss of bees where wintered out of doors, with dysentery; while those in cellars or suitable quarters came out all right. I lost four out of eighty swarms. I find that bees can't stand as much cold as a white bear."

ROBT. T. JONES, Flat Rock, N.C., writes: "Bees have wintered well here. All wintered on their summer stands. We have not had more than one week at a time but what bees could fly. Bees commenced to gather pollen from the elder on Feb. 26, from the soft maple March 10, and are still at in the bee meadow; fruit blooms will be in in a few days."

A. WILSON, Marcellus, N. Y., writes; "My bees wintered good. I put 13 hives in the cellar, and left 13 out on their stands. They all came out in good condition, except two hives where the boards were warped and let in cold air; and they froze. Those in the cellar came out all right. I have used two kinds of patent hives but have laid them aside for some of my own invention, which are more convenient to handle and contain about 2000 cubic inches."

G. F. MERRIAM, San Diego, Cal., writes: "I have taken a long trip among bee-men and find that the bees are in good condition. A frost about the first of April cut off many flowers, and put back swarming and reduced the honey-cup materially. A majority seem sanguine of success, but many are discouraged. It is fearfully dreary here to an eastern man, and costs a fortune to come here and get started in the business. November is the best time to come. Have seen Mr. Harbison and one of his large apiaries."

H. F. PUTNAM, Galesburg, Ill., writes: "My bees swarmed in April and went into other hives. They all had plenty of honey; from 10 to 20 lbs. each. I have had 10 swarm out this season. They were wintered in a house built for the purpose, and came out strong on the last of March. They had good queens and brood, but not a particle of pollen. The combs were clean and free from mould and worms. Langstroth hive, no upward ventilation. The result was that the combs were free from mould, and less honey was consumed than when I gave them upward ventilation."

R. M. ANDERSON, Hopkinsville, Ky., writes: "I have 14 full stocks and all came through the winter safely. I left them on their summer stands, with no protection except a section of planks built together 3 ft. square and stood up on the north side of the hive to break the cold wind off, and I find this a great benefit. I use the Langstroth hive and want no other, for I think it superior to all. I took last year 400 lbs. of honey from 6 hives and if this season proves as good as last, I hope to report much better results. Success to the BEE JOURNAL."

J. P. MOORE, Binghamton, N. Y., writes: "In article on page 103. A. B. J., left hand column, 12th line from the top, reads, 'I am now using a comb 10x17 inches,' (instead of 10x12.) The mistake is probably due to my imperfect chirography. If you will correct as above, I will be very much obliged, as the tendency of the article goes to show that I am in favor of large frames, and I certainly cannot subscribe to a frame as small as 10x12. There are some things in Mr. Coe's article on page 112, that I think would be likely to mislead those who have had no experience with the apiary house. I have used a house similar to Mr. Coe's for the past two seasons.

I cannot say that I prefer to handle bees out of doors, when the sun is shining bright, nor do I think that the house can be build as cheaply as the same room in outdoor hives. A house for 20 hives could be built perhaps for $6.00 per hive, though mine, a substantial house, cost, two years ago, $12.50 per hive.

I think well of the apiary house, where increase is not desired, and where the extractor is not used much, and also where we wish the bees more safe from petty thieves. Bees are doing well in breeding, up here, considering the weather. We are having a great deal of cold north wind. Fruit blossoms not open yet."

HENRY CLAUSSEN, Mishicott, Wisconsin, writes: "We haye had a very hard winter, but bees that were housed in a good cellar have wintered well. My bees were carried into the cellar November 10th, and removed to their summer stands April 6th. From 143 colonies that were put into our cellar, two were found dead. The cause was, some mice found their way into the cellar and had eaten through the straw mats (which I use for honey boards) and this I believe destroyed them. We only had a lew days this month that bees would fly, it has been cold all the time; some days the temperature fell 20 degrees below freezing.

DR. J. R. COLBURN, Chicago, Ill., writes: "I set my bees out of their winter quarters on Monday evening, March 29th, (four colonies out of seven), two died in cellar, and one was queenless. I examined them Tuesday evening, March 30th, and found that two colonies had decamped or left their hives having "swarmed out" probably Tuesday, p. m., as it was a very warm, bright, pleasant day. I found one queen and about a pint of bees hanging on the rear end of a hive (not their own) and took them and united them with the queenless stock above mentioned; but was unable to discover the other missing colony, and as it was growing dark, I did not look any further. Well—Friday about noon, the missing colony was discovered about 300 feet from the hive clustered on a few dried weeds near the ground having evidently remained there from Tuesday afternoon until Friday, about three nights and three days. But the strangest part of it, was that the Wednesday night intervening, the cold was such as to freeze the ground *hard*, as I noticed Thursday morning. I cannot say what the temperature exactly was, but the ground was frozen solid in the morning, when I went to my business, and I should judge the temperature must have been as low as ten degrees below the freezing point. This they withstood without any apparent harm, either to the bees or queen, as on an examination afterwards I discovered a goodly quantity of eggs in the brood chamber of the hive. I put them in."

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, JULY, 1875. No. 7.

Seasonable Hints.

This year the honey harvest is late. To most of us it will come about the time of the issue of this number of the JOURNAL. If bees have been fed and the hives kept warm they will be as strong in numbers now as in better seasons. Strong colonies will need no coaxing to induce them to gather honey. All that the bee-keeper has to do is, to afford every help in storing it. Combs may now be emptied of honey every other day, with the extractor, *in good weather*; and to one who never has witnessed it, the rapidity with which the combs are refilled, is almost incredible.

We cannot too strongly impress upon beginners the value of keeping the bees well supplied with comb while honey is abundant, if they have it or can get it. Every square inch of good worker comb should be secured and given to them in some way. As an illustration of the value of empty comb to a colony, we can give the result of a recent experiment. We put a good large swarm of bees into an empty hive, and the same day one of equal size into a hive with ten frames full of comb. At the end of ten days the latter swarm had stored 116 lbs. of honey, which we took with the extractor,—besides filling several combs with brood,—while the one put into the empty hive had only filled three frames with comb and partially filled them with brood. We have put, in our old style bee-keeping days, a swarm into an empty box-hive and had it barely fill the hive in the course of a season, while a swarm put the same day into a hive full of old black comb not only filled that hive with stores but gave us 72 lbs. of honey! We regard this box honey as really the value of the old comb in the hive.

The trouble with beginners is that they are not supplied with empty comb; indeed old bee-keepers seldom have as much as they can use to advantage. We hope the time is close at hand when we can buy comb or foundations for it, at very low rates. This has long been considered *the* great thing to be desired in successful bee-keeping. Mr. Quinby had been years experimenting without the success he desired. Within a short time, however, these artificial combs have been made in perfection, and we hope cheap enough to make them profitable.

The miller now will be at work, if allowed, and all must be on their guard. Strong colonies that cover all their comb are the best protection. Those that are weak must be looked after, and the comb examined. A queenless colony, if allowed to remain so, becomes an easy prey to the worms.

Keep in every hive room for the queen. Without the use of the extractor she is often cramped for room, and therefore there are not enough bees reared to maintain requisite strength, Preparations for wintering really begin now in securing plenty of brood, to keep up the strength of the colony.

Those who wish to secure box honey, must keep on plenty of boxes now. Set them directly on the frames in any form of hive, with no intervening honey board and put pieces of clean comb in them. You can in this way get any strong colony to work in boxes when there is any honey to gather.

Colonies may be divided all through this month, with profit in any of the Western States. New ones can be built

up late here, quite as well as in June. They may need care, but it is quite easy to give it.

Sow buckwheat, or have it sown for you, at different times. It always pays to have it, though there is great difference in swarms as to its yield of honey.

Bees Communicating Ideas.

The following illustration of the powers possessed by insects to communicate their experiences to one another is given by a lady correspondent of the London Spectator:—"I was staying in the house of a gentleman who was fond of trying experiments, and who was a bee-keeper. Having read in some book on bees that the best and most humane way of taking the honey without destroying the bees was to immerse the hive for a few minutes in a tub of cold water, when the bees, being half drowned, could not sting, while the honey is uninjured, since the water could not penetrate the closely waxed cells, he resolved on trying the plan. I saw the experiment tried. The bees, according to the recipe, were fished out of the water after the hive had been immersed a few minutes, and with those remaining in the hive laid on a sieve in the sun to dry. But, by bad management the experiment had been tried too late in the day, and on the sun going down, they were removed into the kitchen, to the great indignation of the cook, on whom they revenged their sufferings as soon as the warm rays of the fire before which they were placed revived them. As she insisted on their being taken away, they were put back into their old hive, which had been dried, together with a portion of their honey, and placed on one of the shelves of the apiary, in which were five or six other strong hives full of bees, and left for the night. Early the next morning my friend went to look at hive on which he experimented the night before, but, to his amazement, not only the bees from the hive were gone, but the other hives were also deserted—not a bee remained in any of them. The half-drowned bees must, therefore, in some way or other, have made the other bees understand the fate which awaited them."

Death of M. Quinby.

As we go to press, the sad news comes to us that Mr. Quinby is dead. This will be to most of the bee-keepers a personal loss. No other among those who are eminent in this business has been so loved and honored. He was the pioneer of progress in the work, and to him more than all others, we are indebted for the light thrown upon the bee-hive, explaining all mysteries and making the management of these little workers easy and simple. To us he has been a guide and friend. When first interested in bee-keeping his book was our guide, and when we went to him for advice the long cordial letters received in answer were full of encouragement. Mr. Quinby was singularly free from any jealousy or self-seeking in the business which he first elevated to the rank of a profession. He never had any selfish ends to gain, but was ready at all times to aid a beginner, by sympathy and advice. He was to the end of his life making new experiments and testing the inventions of others. The last letter we received from him was in relation to some comb foundations newly invented and which he was testing with success. This letter was as full of life and interest as any one that he wrote us eighteen years ago. An obituary notice may be found in another column.

Don't Violate the Postal Law.

However bad the laws regulating the rates of postage may be, they ought to be obeyed. Negelecting to do this often makes the party violating the law liable to a fine, often prevents the party addressed receiving the matter mailed or makes him pay extra postage.

Everybody ought to know that it is illegal to put any writing whatever, on a paper or circular sent at "third class" postage rate. So doing makes the sender

liable to a fine, or subjects the receiver to paying extra postage, at letter rate.

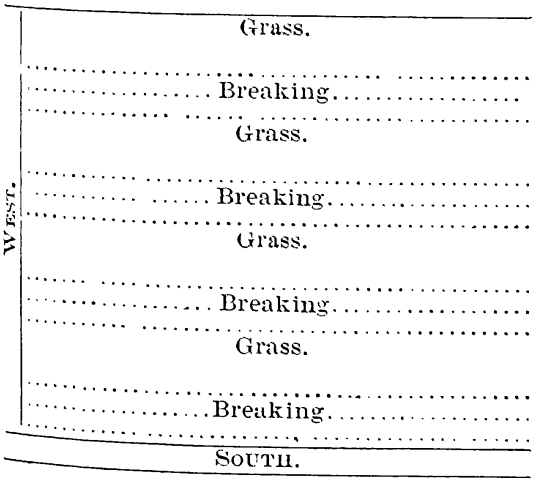
A letter will be forwarded, if one full rate, three cents, has been paid. Sometimes one may be mistaken as to the weight of a letter and not put on snfficient postage. The rate is three cents for each half ounce. Unless one three cent stamp is on the envelope, the letter will be forwarded to the Dead Letter office.

The full postage on newspapers, circulars, or any miscellaneous mailable matter must be prepaid. The rate of postage on this class of matter is now one cent for each ounce, or fraction thereof.

Postal cards should have nothing pasted on them. The communication must be written or printed on the back of the card.

How to drive away Grassoppers.

The "Grasshopper Plague," as it is termed, is very properly eliciting much disussion in the West, and many remedies and preventives are proposed. Among the latest suggestions we have seen is that of a Nebraskian who proposes the following method of driving the hoppers :—Let the raw prairie be plowed in strips or rows, two rods wide, leaving strips of half a rod for every rod plowed thus :



These grassy bars will be capable of a slow, smouldering combustion at any time. When the grasshoppers alight, the first bar of grass to the windward is to be burned, and others in succession, until the enemy is vanquished. The object of this plan is to drive them off, not to stifle them, as then they will revive and go to work again. It cannot be executed to advantage except upon unbroken prairie soil. Some may consider the plan a selfish one, but as self-preservation is the first law of nature, we suppose those afflicted are justified in resorting to any remedy that will insure protection.

The Postmaster General has issued an order modifying the postal regulations by striking out that part which provides that no subscription to newspapers for less than three months shall be considered a regular subscription within the meaning of the law. The effect of this new departure is to allow newspaper offices to send papers to subscribers at regular rates, whether for one week or three months. Heretofore subscribers for less than three months have had to pay transient rates.—*Ex.*

For the American Bee Journal.

Death of Moses Quinby.

SKETCH OF HIS LIFE AND LABORS.

BY J. H. NELLIS.

With this issue of the JOURNAL many will become aware of the fact that the noble, kind-hearted, generous, active and reliable M. Quinby, has passed over the Jordan of this life.

He died May 27, 1875, very suddenly, of apoplexy, having previously enjoyed better health than had been usual with him for some time. He leaves a wife and two children, a son and daughter, to mourn his loss.

His father, William Quinby, lived in Westchester county, N. Y., where the subject of this sketch was born, April 16, 1810. He was reared a Quaker, and probably much of the stability of character evinced in after life, is due to the strict training of his childhood.

His educational advantages were limited, but he was from early youth a close observer of everything,—hence, he acquired a practical education superior to that of many who had much better oppertunities.

Early in life he showed a love for the study of Nature, and he took especial fancy to bees, When about 20 years old, he purchased his first stock of bees, with the first money he could call his own—earned by working nights in a saw mill. From the very first, the method of increasing bees during summer to be killed in fall, in order to secure their sweets, seemed revolting to his nature, and about this time he became aware that bees would pass through the top of the hive and deposit their nectar in boxes which could be removed as surplus. He immediately adopted the new method, and com-

menced urging upon his neighbors the advantage of securing the honey in boxes, and as he since remarked, "saving the goose that laid the golden egg, to repeat the operation." In this, as in all subsequent attempts at improvement, he could *establish* very little except by *proving* its success.

He now studied the habits of bees closely; he improved the appearance of surplus honey boxes, substituting for wood, four sides of glass, and after careful experiments, pronounced 2000 cubic inches the right capacity for bee hives in his latitude. If at this time he had kept his knowlege concealed within his own breast, he could have made a fortune, pecuniarily.

He examined carefully such works on the Honey Bee as came within his reach and becoming convinced that they were not reliable and complete, he resolved to publish his experience, and in 1853 appeared his first edition of "Mysteries of Bee-keeping Explained." This met with general favor and wide circulation, and was accepted as a standard.

In 1853 he removed from Greene to Montgomery county, N. Y., where he has since resided, and from that time to his death, he gave his exclusive attention to bee culture, except that he has bestowed considerable care to growing orchards of apples, pears, plums, &c., and cultivated quite extensively grapes and small fruits. For a few years past, he also took especial pride in his trout pond, he having superior advantages for rearing trout. He now owned or had half interest in from six to twelve hundred colonies of bees, and was instrumental in sending to market from his section, amounts of box honey, ranging from five to thirty thousand pounds, annually.

Soon after issuing his "Bee-Keeping Explained," he became acquainted with Mr. Langstroth, and immediately adopted the Movable Frame Hive. A little later, Italian bees were brought to the United States, and Mr. Quinby procured some as soon as possible. He tested the merits of the new variety thoroughly and also modified the Langstroth movable frame, and in 1865, he published a revised edition of "Bee-Keeping Explained," giving the results of his riper experience.

Having passed the meridian of his life and for want of efficient help, he greatly reduced the number of his stocks about 1862, and subsequently gave much of his attention to rearing Italian queens and colonies for market, and in writing extensively for the agricultural press.

He was prompt to adopt the honey emptying machine and he set forth lucidly its manyfold advantages.

For some time he felt assured that movable frames were susceptable of improvement, and after giving Mr. Hazen's hive and theory, earnest consideration, he brought out his non-patented Non-Swarmer in 1868. This was found by careful experiment to be a worthy invention and is now adopted by all the leading honey producers in his section, and largely throughout the country.

About this time he began to advocate the organisation of bee-keepers' societies, and as a result, the Northeastern Bee-Keepers' Association was formed at Albany, N. Y., in March, 1870. Mr. Quinby was chosen President and held the position until at its last meeting, he declined a re-election. His annual essays before this Association were masterly efforts and show to some extent the arduous labor, the severe opposition and the untiring sacrifice of the noble man departed. Truly may it be said of him, "Blessed are the dead which die in the Lord from henceforth: yea saith the spirit, that they may rest from their labors; and their works do follow them."

In 1871, at the permanent organization of the North American Bee-Keeper's, at Cleveland, Ohio, Mr. Quinby was unanimously chosen President, a position which he held for one year, but was not re-elected as he did not attend subsequent meetings.

About this time, he became convinced that bee-culture would not become universal, until the foolish and widespread fear of stings was removed from the public mind; accordingly he wrote frequently on the best methods of manipulating bees to avoid stings, and as the crowning success of his life, he invented the new smoker, with which to apply somke, effectually to the subduing of bees.

The disasters experienced in wintering bees, the past few years, has been to him a subject of constant thought, and probably no theory extant to-day is as good as his conclusions on this subject, as proved by his success the last two winters' in escaping loss.

But time and space will not permit us to go into minute details Of an active, progressive, philosophical turn of mind, he was generally in advance of his fellow men.

He was in intimate sympathy with the abolition of slavery and was closely allied with the cause of temperance.

In stature, Mr. Quinby was of medium height, well rounded, and rather heavily built; his was apparently a vital mental temperment.

Long may we remember the unassuming, pleasant, hearty manner of the man whom we respected as a father! Indeed his cheerful service of time, money and hospitality to those who wrote to him or visited him from curiosity or to learn all they could from him, without returning even a word of thanks, was, to others more selfish, a matter of much surprise.

Our feeble words fail to express the deep appreciation which we had of Mr. Quinby. We consider him the most successful founder of modern bee-culture in America, and a man of unswerving conscientiousness, truth and purity.

In short, we sum him up as a deep, progressive thinker, a real philosopher and a genuine philanthropist, who should long be held in grateful remembrance by the American people.

Canajoharie, N. Y., June 15, 1875.

☞ Business seems to depend upon small things, and many of them, in Texas. In proof thereof read the following from a Texas paper: "A single queen bee will produce 100,000 bees in a season; the 100,000 bees will produce 50,000 swollen heels and the sale of twenty-two barrels of arnica.

The Orientals call the honey-bee, "Deborah; she that speaketh."

Correspondence.

For the American Bee Journal.

Bad Luck.

It is but right that bee-keepers should report their failures as well as their successes, but I confess I have not the same heart to write about one as the other. When my bees all come through the winter and spring in good condition, and are able to gather plenty of honey early in the season, I find it an easy matter for my pen to tell all about it. But when they die in the winter, and die in the spring, and then have to be fed through spring and summer, I have little disposition to talk or write *bees*.

The caption of this article is my apology for failing to put in my usual appearance in the columns of the AMERICAN.

"Bad luck" is no name for it. It is no luck at all that I have had this season. I could almost wish I never seen a bee. This is the way I feel when I look into my weak and starving stocks, and have to feed them every few days to keep them alive. But this feeling is a little modified when I sit down to my table, and pour out over my cake and pie the bountiful honey of last years' gathering. This pleasant reminder of last season's success takes a little of the edge off my present bad luck, and stimulates me to give enough attention to my depleted stands to keep them from starvation. It keeps alive within me the hope that my "luck" may some time turn, and honey again flow from my old-time extractor.

I thought until late in February, that my bees were wintering admirably. And even when I set them out in March, only a few of them had died, and they mainly from want of food. But after I set them on their summer stands, they dropped off one after another, until I had left only twenty out of fifty-four. And yet I was not discouraged, as I felt sure that as soon as the honey season came I could increase them to any number I might want.

This hope, however, and all other hopes for this season, were blasted by the slice of winter that was hurled on us in April. Everything in the shape of bloom and buds were killed too dead for reserrection. Even the poplar buds, which had just begin to form, were all destroyed. The poplar is our main reliance for honey. This, with everything else, was cut off. The locust has also failed to put out any bloom, although its buds had not begun to form at the time of the frost. We have nothing now from which our bees can gather any surplus, except a little scattering white clover, and there is an unusually small amount of that this season. Rains that have fallen in the last few days may increase this bloom some little, but I do not look for any surplus honey from this or any other source this season. I shall be well satisfied if my bees can find enough to live on without help from me. I have had to feed the most of them up to within a week or two past. Some I am feeeding yet. There is not much bee-fever in this section this season.

Charlestown, Ind. M. C. HESTER.

From the Practical Farmer.

Italian Bees.

This variety of the honey-bee is found south of the snow-covered Alps in Northern Italy, and is of a striped golden color. They were accidentally discovered during the war of Napoleon III, by Captain Baldenstein, who carried the first colony across the Alps in 1843. In 1853 they were introduced by Dzierzon into Germany, and into the United States in 1860. There has been several importations.

We were slow to believe all the good things said of them by German apiarians, until convinced of their superiority by the universal testimony of prominent American bee-keepers, coupled with our own experience. From the mass of testimony in favor of the Italians, we condensed the following points of superiority over the common bee:

1st. The queens are more prolific than the common kind, consequently the colonies have more brood, swarm earlier and more frequently. 2d. They are less sensitive to cold, working more hours in the day and in cooler weather, hence, collecting a greater amount of stores. 3d. Their strength being greater and wings larger they are more active, fly more swiftly, and are less liable to be robbed, but easily master weak colonies of common bees and appropriate their stores. 4th. When bred in combs of their own building, they are longer and their honey sacs larger. 5th. Their proboscis being longer they are able to work upon flowers that the black bees cannot operate on. 6th. Their beauty of color and graceful form renders them an object of interest to every person of taste. Hence they attract many visitors, who admire their golden color, so beautifully shown by the sun rays, as they pass swiftly to and from the hive.

New York. H. A. KING.

For the American Bee Journal.

Best Bee Location, &c.

Seeing inquiries in the June No. by Mr. H. B. Rolfe, about California as a location for an apiary, I would say, that being desirous of locatiug an apiary I have, myself, been on the lookout for a place for some time past, and I investigated California among the rest, and I have come to the conclusion that Southern California is probably the greatest honey producing country, of equal area, in the world. I am further satisfied that its distance from good markets and liabilities to the disease known as "foul brood," as well as from ravages from the moth, may reduce the high estimate some people have of it. Again, there is just now a rush among the Eastern bee-keepers to Southern California; so much so that Mr. Harbison told me,—on his recent visit to the East, when he marketed his gigantic crop,—that where a few years ago he had no competitors near him, they are now so plentiful that he can hardly find a place to locate any new apiaries. His custom being to keep say from one to two hundred colonies in a place, and as fast as they increase, locate new ones.

Now in regard to the questions asked by Mr. Rolfe, I will not presume to speak *ex cathedra* as I have never been to California, but having looked up the same sebject-matter myself, I will give Mr. R. the benefit of my inquiries on the subject and in the order of asking.

1st. So, California *is* the best place for box honey. 2d. Yes. 3d. Ten dollars per colony, (gold), but not in Langstroth hives, as most hives are made after Mr. Harbison's, which approaches the American in shape. 4th. Five to twenty-five dollars per colony, (this depends). 5th. No. It would probably be very difficult, now, to find a good location not already taken up. 6th. About four to five cents per pound is required in packing. Mr. Harbison had his own men load and handle his honey. 7th. Cannot say. Probably San Francisco. Write to California Emigration Association, San Francisco, for information, &c.

In regard to the quality of California honey it seems to be the opinion of every person who has tasted it, with whom I have talked, that it cannot compare with our white clover, except in looks, "Novice" to the contrary notwithstanding. But its looks sell it. Again, I am of the opinion that the present season will see a drop in the honey market as there probably will be shipped from California three quarters of a million pounds, and this with glucose so cheap, will materially reduce the profits of bee-keeping for Eastern apiaries. Look out for it, brother bee-keepers!

Bro. Moore, of Binghamton, N. Y., seems to think that I argue (in regard to shape of frames) a good deal from theory. Perhaps so, but my theory is based upon well-known laws of heat which operates in a hive of bees the same as anywhere else, and all my queens lay their eggs in a circular brood chamber, and I think any other queen will when not cramped by an oblong, horizontal frame. But it seems a pity that a young be-keeper, at least, cannot agreee upon some one standard size, at least for the top box, and then let any one have the frame as deep or as shallow as they please.

Mr. Dadant says they have adopted this plan in Italy.

Hurrah! I now propose to all young bee-keepers, about starting an apiary, a uniform length of top box, and suggest 15 inches. This is a concession on my part for my frames are 12½x12. Who do it?

Chicago, Ill. R. J. COLBURN.

For the American Bee Journal.

On The Field Again.

Time has wrought a good many changes since I last wrote you. My attention has been turned a good deal, to other things for the last two or three years. So that I have not taken the interest in my bees that I should have done. But now I am thoroughly settled in my pet business on the "far off" Pacific coast, and from this "land of honey," as well as "land of gold," I propose shaking hands again with my brethren, through the columns of our beloved AMERICAN BEE JOURNAL.

The glowing descriptions of this coast as a honey-producing country, induced me to leave home and friends in the beautiful Mississippi Valley and seek a home in the mountains of Southern California.

There is so much in this country of interest to bee-keepers that I hardly know where to begin. I will, however, begin at the beginning and tell something of the history of bees in this State.

The first bees brought to California was in March, 1853, by Mr. Shelton, who bought twelve hives at Aspinwall. These dwindled down to one before swarming season. This one threw off three swarms, two of these were sold in the fall, one at $105, the other at $110. The next lot were imported in 1855. Pat

not until 1857 and 1858 were there many bees brought here. So that by 1860 there were several thousand colonies of bees in this State. In the year 1860 Mr. A. J. Biglow brought from the apiary of Mr. S. B. Parsons, of Flushing, L. I., 113 Italian queens, and arrived safely in Sacramento with 111 of them. So you see that the Italians had nearly an even start with the blacks here. Although it has been but a short time since the first introduction of this noble insect along this coast, yet for several years past the woods and caves have been full of bees, and thousands of them have been taken by hunters every year. The Italian stock is mixed with many wild bees. Notwithstanding this country is so well adapted to the culture of the honey bee, and this insect has done so well here, it has only been a few years since the real resource of the country, in this particular, has been known. At first bees were kept on the valley lands, where they do well, but make an inferior article of honey. But the honey district is on the western slope of the mountains, and is comparatively a small district. There are, it is true, many places not yet occupied by apiarians and many others that never will be occupied, owing to the want of water. My present location is in the Santiago Canyon, 30 miles S. E. of Anaheim—my P. O. The surroundings are beautiful and we have 150 colonies of bees, from which we have taken up to the present date, 3600 lbs. of honey. We expect to take 30,000 lbs. and increase to 300 colonies, this season.

The honey-producing plants here are almost innumerable, as every plant and shrub on the mountains has a bloom from which the bee gathers honey, some are in bloom the year round.

A swarm put into an empty hive in November will live through winter and probably swarm in May next.

The earliest plant is the manrinata, which blooms about Christmas and produces a great deal of honey. Then comes in the many varieties of willow—some for pollen and others for honey. From February 1st there are a succession of plants in bloom, giving the bees every opportunity for swarming by the middle of March. Through April they have ample time to become strong for gathering honey from sage and other varieties of bloom in May, June and July. The principal plant is white sage, which blooms about the middle of May and continues in bloom about seven or eight weeks, and from which the best quality of honey on earth is produced. [I am going to send you some, Mr. Editor]. The white sage grows on the hottest and dryest portions of the mountains, and produces abundance of honey every year, whether it rains or not; the hotter and dryer the better. There has never been a failure known here in the bee business owing to the season.

In my next I will tell you something about the country, inhabitants, &c. Until then, remember me as of old, an

AMATEUR.

For the American Bee Journal.

A Suggestion—Be Honest.

Bee-keepers are not looked upon with much favor by the general public. Any individual, who has earnestly endeavored to enlightened his neighbors, in regard to the mysteries of bee-keeping, has found himself, at some time associated in their minds, either with insane persons, or with the venders of wooden nutmegs.

Now, there is, perhaps, nothing which has tended so much to bring this about, as our enthusiasm and generosity. Unlike men in many other callings, the bee-keepers are willing, yes, *anxious*, that the people should understand the mysteries of his trade. And who ever heard of a bee-keeper that was afraid of competition. On the other hand, he believes that "anybody can and everybody should keep bees."

Now, is it not high time that we should desist from some of our talk in this respect. True, anybody can *learn* to keep bees, but it is not one in a thousand who *will*. And why should *we* find fault. Now we know that under favorable circumstances, and with the experience of years, we do sometimes realize almost fabulous profits, from our little workers. We further know, that to the expert bee-keeper, there is no investment of capital, that presents so few liabilities to lose as this. But it is not so to the Novice. Many things of vital importance, while they appear very simple, nevertheless cost us patient toil, ere we learned them.

I have had men come to my apiary, and seeing the ease with which I could handle the bees—make new swarms, extract honey, &c.,—have begged me to come and fix up their bees. I have done so at even a personal sacrifice; all would go well for a time, but suddenly I would be cursed for killing his bees.

Now the fact is: Bee-culture is not such a *simple* thing after all. True, it is briefly comprehended in one saying: "Thou shalt keep thy stocks strong," but the *minutia* of its *modus operandi* is as complex as that of any trade in the world.

To become a successful bee-keeper, requires hard, steady, patient toil, careful observation, and study, and experience gained even under failure.

Besides, we all know, that the movable comb hive and extractor, the very instruments which in our hands multiply our stocks and double our profits; in the hands of the novice, are instruments of destruction, no less certain, but more cruel, than the much-abused "brimstone pit."

Now I believe, that there is no class of men in the world more honest, than the intelligent bee-keeper. But we are too modest; we hate to tell men that they can not do all that they see done.

Now let us be honest in our statements to the people. Let us quit trying to persuade *everybody* to keep bees, on the improved plan. Let us still be ready to instruct a man in our art, but when he has heard our say, and is indulging in gay dreams, of future bliss, when mid countless swarms of bees, he shall bring forth rivers of honey, from every teeming hive; let us be honest enough to tell him that, "He knoweth nothing yet, as he ought to know," and unless his business has been *unusually* well learned may expect his efforts for some time to be crowned with disappointment and failure. "APIS."

Esparcet Culture.

From the little work, just at hand, by Fried. Aug. Pinckert, we glean the following, touching in brief, upon the climate, soil, care, tillage, &c., required for the cultivation of Esparcet.

In the preface he says: "The Esparcet is now considered, among all the known fodder-plants, especially among the clover kind, the most nourishing, and therefore the most valuable to the agriculturist; and enriching the soil, is equal if not superior, to trefoil." (*Luzern—Ger.*) which he considers next best.

"It will flourish," he says, "where red clover and trefoil will not, on places such as rocky hillsides; especially were chalk and lime-rock abound." It will strike its roots from eight to ten feet into the ground, winding its way through fissures in the rocks, and making the land mellow for less deep-rooted plants.

"It contains," he continues, "more nourishment—68 parts in 100—than any other kind of fodder; and for taste is preferred by all kinds of stock, holding it as a real titbit. It is also best for milch cows. It does not furnish so much hay per acre as some other kinds of clover, but what it lacks in quantity, it makes up double in quality." So much then for its value as a farm crop, now then for its cultivation:

Endurance—Its endurance depends entirely upon the soil where it is grown. It has been known to grow vigorously from 15 to 20 and 30—Peter Lawson asserts 100—years, the average, however, is from six to ten years.

Re-sowing.—After it ceases to yield a good crop, break up and put in grain, &c., until these cease to bear profitably, then again put on the Esparcet; but not sooner than 15 years after breaking, unless the soil has has been prepared for grasses with land-plaster, &c.

Climate.—"As it is a native of a warm climate, it will, of course, flourish best in a wine climate, but experience proves it will also prosper outside of this climate." It will grow wherever red clover can be grown with certainty.

Location.—"Sunny, high and free places are the best, for it is often injured in low places by the dampness, honey and mildew. Even for the following reason it should be sown on high, uneven ground, and steep hillsides, because of the excessive labor to cultivate annuals in such places"—in short, it appears no matter how poor, miserable or unthrifty the location, it is good enough for Esparcet! Provided, however, if grown on such ground, it receives careful preparation, and a yearly manuring with land-plaster, &c.

Soil.—Its growth depends on the lime, chalk, marl, and gypsum parts which the soil contains. In localities where these formations are to be found, its growth is almost certain. It cannot endure a wet, strong clay or low, marshy soil. Summing up all he says about the soil, there is no doubt it will flourish where our grains are grown with success.

Tillage.—Deep plowing, and careful preparation are essential; but in gravelly places where the plow cannot be worked in, it will prosper nevertheless; but it should always be kept free from weeds, as its growth is sensibly affected by their presence. Should the soil be too poor to nourish the young plant, it will be necessary to manure with guano, bone-meal, &c.; but as seldom as animal vegetable manure is necessary, it is most essential to employ the mineral manures.

Sowing.—The best time for sowing is in spring, but it can be sown in the fall with other crops. Sow at the same time with your other grains; even as late as buckwheat time will do. The quantity in bulk would range about the same as wheat, or perhaps oats. Mix it with these, or other grains and sow broadcast or in

drills. Rolling, as with grains, is very beneficial. It is well, after your grain has been cut, if the soil is dry, to drag it over well, to remove and kill all weeds that may have sprung up; this in fact, should be done every year.

Blossom.—It begins to blossom from the middle to the end of June. The book does not enlighten us as to the length of time it remains in bloom.

Mowing.—Should take place as soon as it is in full bloom, if the best quality of hay is desired, then it will also furnish a medium after-crop. But bee-keepers will know how to regulate that to their own benefit. The hay is handled the same as red clover, although it will dry somewhat sooner. Cattle may be turned on in the fall, but not sheep, as they injure the plant by browsing, we think, too close to the ground.

Seed.—If desired for seed, it should be allowed to stand until the pods present a half-brown appearance; if allowed to stand too long, storms are apt to shake them off. The first mowing is generally selected for this, and from field that are too old to yield a good crop of hay. Treat it the same as buckwheat, setting it up in small bunches in the field; be careful not to handle it too much in gathering, and thresh it in the field as soon as gathered. The germs remain good for three years.

KRUSCHKE BROS.

Berlin, Wis.

For the American Bee Journal.

Handling Bees.

I have no doubt that many apiarians as well as myself, have often looked over the index to the BEE JOURNAL to find some special direction as to what to do and what not to do in an emergency, and sometimes it is a difficult task. Hints are given here and there under various heads but not without much searching—and then, not altogether satisfactory. The great value of a book like the BEE-JOURNAL, is a very full and complete index. I have chosen the above title as the best I can think of, and yet it does not convey the whole idea upon which I wish to call the attention of beginners in this delightful occupation.

Coolness and deliberation in manipulating bees, is one which may well be studied and practiced. In my own experience, (I have kept bees for many years), and in my observation of others, the thought of opening a full hive of bees has been with such feelings of trepidation as to start the persperation in streams and cause very unsatisfactory work. It is not so now with me, at least, for I have learned to keep cool, and perfect my work with deliberation. For the sake of others, especially beginners, I would like in this article to give a few hints.

In the first place, notwithstanding the opinion so often expressed to the contrary, it is well to use *some protection*; a black veil of black millinet, drawn over a broad brimmed hat, and woolen gloves —with the thumb and fore-finger cut off —will afford a confidence and self possession which will go very far towards giving the desired coolness and deliberation.

I often handle my bees without any protection, whatever; but I can never be absolutely certain that some dyspeptic bee will not fly in my face and close up my eye, or add huge proportion to my nose. And this for a man who every day or two has to speak in public, is, to say the least, not desirable. So, too, with the utmost care, a block will tip over, or an involuntary jar occur, which will arouse a dozen to make an attack. To keep cool, therefore, first protect yourself.

Again, when operating in warm weather, it is *not necessary to be in a hurry.*

The air may be full of bees, but they will all find their place Broods will not perish or be injured in the space of time required for most operations. A whole hive may be spread out on the different frames in the shade and every comb deliberately studied without being at all injured. It is all important to know and decide at the outset, before the hive is touched, what you intend to do, and make your preparations accordingly;—have *everything* required on the spot, arranged within easy reach. Thus, a black queen may be caught, or her wings clipped; crooked combs straightened, or drone comb cut out and replaced by worker comb, &c., &c., all in one operation.

The want of deliberation causes the death of many bees, and the rest needlessly irritated. It is an art to handle bees well, only to be acquired by practice. And there is great satisfaction after performing a difficult work (as for instance to transfer the combs of a box hive into frames) and feel that you have not needlessly crushed a single bee. It can be done, but the hive, the frames and combs must be handled as gently as you would a full tumbler without spilling a drop.

D. C. MILLETT.

Hamburg, Pa.

For the American Bee Journal.

How it Looks Here.

It is not often that I attempt to write for the JOURNAL, always believing that better matter is furnished by others. I am more discouraged this spring than I have ever been about bee-keeping; the season is as least one month later than usual. Fruit blossoms of every kind are killed or nearly so; a few blossoms are left; the bees got barely enough to sustain life. The succeeding blossom (locust) is frozen, and leaves and all, killed. We have nothing to depend upon but white clover, which is abundent in this section, and the succession of fall flowers. I shall sow buckwheat and try to gain something by that means. By this time other seasons, I have had bees working in the boxes and preparing to swarm, but now they are just beginning to breed rapidly, and if they are fed to keep them alive and breeding when clover comes, if that don't fail too, we may yet get some surplus. Bee-keepers were very hopeful as bees wintered so well, last winter; there were scarcely any lost in wintering, and good results were anticipated. "Man proposes but God disposes." There will not only be a scarcity of honey, but fruit, of all kinds, except the latest varieties. Frost has killed the young clover, blackberries, raspberries and strawberries. Every thing in the fruit line is a failure. I would advise every one in localities that suffer as in this, to feed, and feed sufficiently to keep their bees moving; they will gather some little, and out of the gloom that now surrounds us, we may yet have sunshine. R. W. HARRISON.

Melrose, Va.

From Practical Farmer.

Transferring Bees.

The apiarian often finds it necessary to move his bees out of a defective hive to a good one, and from box hives to those with movable frames. They could be driven into an empty hive just before they have commenced gathering honey freely in the spring of the year, and they would do as well at least as a top swarm. But the brood and bees bred in the hive at that time of the year would be of no value to the bee-keeper, which if given to the colony would be worth as much to them as a medium-sized swarm. We have practiced the following method since the introduction of movable comb frames, which has been over twenty years. It can be done out-doors in the open air, if it is not too cold to chill the brood, and bees are not disposed to rob. We prefer to use the kitchen, wash-house or clean barn floor to operate in. The kitchen table is very handy to lay the combs on when taken out of the hive, and to work on in fitting the combs into the frames; a good substitute is made by laying a broad board on the ends of two empty barrels. Have a dish of water and cloth to cleanse the hands occasionally, and wipe up such dropping honey as cannot be lifted with a knife-blade. Keep everything clean, and allow no honey to run, if possible, which prevents other bees from troubling you. A hatchet, long knife, and thin cold chisel, should be in readiness, also a box to force the bees into. You are now ready for the hive of bees. Light your fumigator or smoker; step up to the hive on the stand and carefully give the bees a few whiffs of smoke, when, if they be clustered on the outside of the hive, they will soon leave for the interior. Raise the front of the hive a little—this will allow the bees to enter more freely, and also give a better chance to reach those inside with smoke—and administer enough to make them roar well, as this is evidence of their giving up or surrender. You can now proceed to do anything with them you wish.

Now take up the hive and carry it to the place of transfer; turn it bottom up on the table and blow more smoke down among the bees; then place the forcing-box on the mouth of the hive, so that the bees cannot get out. Hammer on the hive, which will cause the bees to fill themselves with honey and travel up and cluster in the top of the box,—which requires from 7 to 10 minutes; then remove the box containing the bees to the floor near the table; pry off one side of the hive so as to enable you by the use of the long knife to get the combs out as whole as possible; brush off the few remaining bees with the feather-end of a goose or turkey quill, near the box containing the bees which should be raised on one side, so as they can run under and cluster. Take the frames out of the new hive; lay one on a comb and mark it around on the inside; then trim off the comb in such a manner that it will hang in the hive same as it did in the old one (top edge up); cut the comb a trifle larger and spring the frames over it. Fit in all good pieces of good worker comb, especially those containing brood, combs; those that are too thick to let the frames together should be shaved off.

The drone comb may be known by its large coarse cells and should be rejected by which a stock is often rendered very prosperous that was no profit to its owner

before. Now set the combs in all the new hive and close it up — except the entrance.

Hive the bees from the box into the hive, as you would a new swarm: then return to an old stand (which should be occupied with an empty hive during the process to retain the straggling bees.) If no bees appear to be troublesome, contract the entrance. We have used melted roson and beeswax to secure the comb to the frame; thorns inserted on the sides and bottom of frames, through holes made with an awl into the comb, make them very secure; slips of tin can be used to fasten the combs to fit the frames tightly, will save resorting to other means to secure the combs in the frames.

If transferring is done at a time when the bees cannot obtain honey, 2 or 3 combs should be given them, or fed honey from the chamber of the hive, until such times as they can gather it from the fields and forest, as a certain amount of honey is necessary to mix to repair and fasten the combs and food for themselves and the young bees.

During the blossoming of fruit is a nice time to transfer, and if not then, it is best to defer it until the appearance of white clover. SETH HOAGLAND.

For the American Bee Journal.

How to Prepare Comb Honey For Market.

Make a strong case of rough boards in shape to suit the boxes, the weight when filled not to exceed 200 lbs.

Prepare the boxes by making all as tight as possible, so that should any breakage occur the honey will be in the package.

Pack the boxes either in the original position as filled by the bees or inverted; never on the side or end.

Make all firm within the case; when needed, drive in a rough wedge.

When this is completed, fasten securely near the top on each side of the case a strip four inches by one; projecting eight inches at each end, to serve the purpose of handling in carrying, and prevent its being turned on end or otherwise roughly handled.

Mark plainly on the cover, "Honey—this side up with care."

We prefer to return all packages, for the following reasons:

The producer generally weighs his cap boxes when new and dry, and deducts the same as tare when selling. The buyer purchases net weight, and after cutting out the honey finds that each box weighs from eight to twelve ounces more than the tare allowed him. This difference is almost certain to cause dissatisfaction on the part of either the buyer or seller.

We take the box apart carefully, and fasten the several pieces together with a nail or cord.

When packed in a case and shipped in this manner the freight seldom exceeds two cents per box. These packages when wanted for use have only to be tacked together, and they are equally as good as new ones costing from ten to fifteen cents each.

We refer to the box most commonly used, (and really the most profitable for the bee-keeper), made of $\frac{7}{8}$ inch stuff, 14 inches long by 6 inches square, containing from 12 to 15 pounds of honey.

JESSIE D. LIPPINCOTT.

Pittsburgh, Pa.

For the American Agriculturist.

Bee Notes.

Among the domestic animals we have various grades of improvement. Among horses and cattle, the various breeders find points in each grade that they wish to propagate for some purpose. They select parents that have points that they expect to find in their offspring. The beautiful Durham is not expected from the wild race of the tropics. Among bees the beautiful and amiable Italian is not expected from the black, vicious, and often more indolent native. Both varieties may have some traits that is desirable to propagate, while both have some which might be advantageously left out. One stock may possess vigor and industrious habits, and a disposition to resent any measure that seems to them an approach to robbing them of their stores. Another may be indolent to collect much, and lack energy to protect what they have. Accumulation of stores is what is usually wanted. If industrious habits and a mild disposition are found combined, that is the breed to propagate from. With most of us these traits are only ascertained by close and attentive observation. Thirty years ago an old lady, when asked to fix a price for one of her colonies, replied that she had smarter bees than any one else, they swarmed early and often; she had probably discovered a fact, without being able to trace it to any cause. What is there to prevent changing all our stocks into the best in one summer, if all the queens are selected from such only? It is time this point received attention. In rearing cattle, it will not do to check the

growth by an insufficiency or an inferior quality of food. Queen bees need a full development as well as cattle. Much discussion has been had relative to rearing queens in full stocks, or in small nuclei; some claiming that a full stock is the most natural. It will not be discussed here, further than to say that a full supply of nutriment is required to rear good queens; usually the least trouble and expense, where many queens are to be reared, is to make a little box to represent a movable comb hive. Combs of full size of hive can be used on the same principle, the size makes but little difference, if there are nurse bees enough. It would seem that the Creator had designed especially to facilitate the increase of the best stock. In addition to the number of queens provided, when a swarm issues naturally, it is so arranged that they can be increased almost indefinitely. Eggs of fertile queen are of two kinds—one produces males, the other females. Means of deciding which will produce drones and which workers are given to all observers, as one kind is deposited in worker cells, the other in drone cells. Whether the *act* of depositing the egg in the large or small cell decides the sex or not will not now be discussed. One thing is certain, the eggs deposited in the worker cells that ordinarily would produce workers, can be converted into queens. When young bees not many days old, are destitute of a queen, and are provided with eggs, or young brood, in season, they at once proceed to provide one or more. It is well to wait, before commencing to raise queens, until there is a prospect of drones hatching, as soon, at least as the queens do. If bees, to commence with can be procured a half mile away, is better. Get a quart or thereabouts. Now, from the stock you wish to breed from take a piece of comb containing brood. It is better to get it all of one age. The first or second day after the eggs are hatched, is best. Take out the comb containing brood, and hold it so that the light shines directly into the bottom of the cells. Find a spot where the eggs are just hatched. Take such; as queens will mature from them a little sooner than from eggs just laid. The larvæ that have been fed too long as workers, cannot be so well developed into queens by nursing. New comb is better than old. If old and tough, cut off half the length of the cells with a knife. Cut out a piece 3 or 4 inches long, ½ an inch wide. Then cut from a large piece—let it be clean—a place that this will just fit. Give an inch space under it. Let the piece of brood be crowded in firm enough to hold a few hours, until the bees weld it fast. Combs should contain abundant honey for several days. If bees to raise the queen are taken from the home yard, they should be mostly young, if possible. Go to a strong stock in the middle of the day, when most of the old ones are out to work, raise out a comb or two, and shake or brush the bees into a box, made with joints close enough to keep them when the lid is on. Young bees will not be apt to fly. Have a little piece of wire cloth one side somewhere, in hot weather, for ventilation. Make a hole in the bottom of the box, in which the combs with the brood ready for the bees are to be put, and one to match in the top of the one with bees. Open both and set the two togeher, and the bees will creep into the upper one with combs and brood. Keep confined for thirty-six hours or more, when they may be allowed to fly out from the stand they are to occupy. More than one piece of brood can be put in the same comb, if many are wanted and there are bees enough to take proper care of it all. If brood that is taken for queens is not over two days old from the egg, a queen cannot be matured from it in less than ten days. When the first one matures and comes out of the cell, she makes it her business to look up other queen cells the first thing, and destroy every competitor. If the bee-keeper wishes more than one queen, the extra cells may be cut out before any hatch—leaving one. Put those taken out in their natural position into a box, prepared as for brood, using cell instead of brood. Manage as before and a gain of several days will be obtained. As many as there are cells can be prepared. Care is needed not to bruise the cells, or turn them over roughly. The queens inside may be very tender, and rough handling may kill them. When combs of full size of hive are used, instead of small ones, a little more care is needed to keep warm, etc. There will be this advantage in large combs. The queen can be established in full colony, and there is no trouble in transferring her. When she is once established, and begins to lay, go to a hive that is well filled with sealed brood that needs no further nursing, take one or two, shake off the bees, and put them in with the young queen. No fighting will occur with the young bees as they hatch. More combs may be added until it is thought to be strong enough, with what they will rear of their own. When an increase of colonies is desired, instead of surplus honey, they can be increased faster in this way, than in any other. New colonies can be made to assist others

long before the summer is through, when managed properly. Remember it is best to have all colonies strong by having others to assist, when necessary. Do not allow bees to sit outside and do nothing for want of room in the hive to store their gatherings. If no room can be given for boxes for surplus or combs to hold honey for extracting, it is best to add to the number of colonies. Continue to examine into the exact state of every hive. M. QUINBY.

St. Johnsonville, N. Y.

For the American Bee Journal.

Cincinnati Exposition.

MR. NEWMAN—I send you one of our Premium Lists for this year's Exposition. The follwing is an extract therefrom relative to Bee matters:

CLASS NO. 21, BEES, BEE HIVES, ETC.

277. Best Entomological Display of honey bees, any or all varieties, and their products, Bronze Medal.

278. Best average product, per swarm, in extracted honey from apiary of any number of hives, Bronze Medal.

279. Best average product, in box honey, from apiary of any number of hives, Bronze Medal.

NOTE.—In Premiums Nos. 278 and 279, the exhibitor may select the swarm or swarms which he intends to use for competition, but they must not be aided by or assisted in any way from any other swarm from April 1st to September 8th, and the decision shall be based on the amount of extracted honey taken from those swarms so selected, and from the swarms, if any, produced by them during the time between April 1st and September 8th.

280. Best display of honey, extracted or in comb, or both, Bronze Medal.

281. Best display of honey in the comb, Bronze Medal.

282. Best display of packages for retail, Bronze Medal.

No. 277 may need some explination. We expect under this number to receive cases containing specimens (dried or pressed), if queens, workers and drones, in their different stages of development (in the cell and out of the cell) from the egg to the death at maturity; also specimens of the different kinds of cells. The eggs, larvæ and fly of the bee mouth etc., etc., etc. in fact any thing belonging or incident to the working of the honey bee in its wild and domestic state. The other numbers explain themselves.

I suppose that if any entries from a distance, or rather, from those who are not personally present (in Nos. 278 and 279) they should be accompanied by an affidavit (sworn to) of the facts. This, however, is my own opinion only, there is no rule for it, but it would certainly be safer. H. W. STEPHENSON.

Cincinnati, O.

Bee Forage.

A writer asserts that he has had buckwheat to bloom in thirty-five days from the time of sowing it, and as it will begin to bloom when over six inches in height, if the season is a dry one. For this purpose sow about a bushel, never exceeding three-fourths of a bushel, of seed per acre, running over your land with brush similar to that used for putting in wheat, or the ordinary roller without the brush.

A correspondent says: If you wish to preserve the plant for forage, after your bees have used the fields for six or eight weeks, you can do so and save an enormous yield of nutritious forage. Cut with ordinary scythe, or grass blade, just before the seed begins to brown, and cure as you would coarse characters of grass. The product thus secured will amply remunerate the outlay of money for seed and time and labor, and give to your busy little friends abundant stores of delicious honey.

About California.

W. J. Whitney, of San Barnardino, California, has sent us the following general directions about emigrating to that State, in answer to the following questions:

Don't think of shipping bees here from east of the Rocky Mountains, as it will be money and bees wasted. If you can get half what the hives cost there, you had better sell them than to ship them.

Now for your questions in regular order.

1st. What can good stands of bees be bought for in your vicinity? A. From $4 to $12, according to condition, style of hive, &c. In Los Angelos, for $2 50 in Harbison hives, the honey they make there, not being saleable, since San Diego honey came into market.

2d. There are two mills dressing, cutting up, and putting together (if wanted), at the following prices:

Harbison's, ready for putting together, $1.80.

Langstroth's, ready for putting together, $1.70.

Watson's improved Langstroth for five section boxes, $1.90.

Louth's improved hive for section boxes, the best yet out for this country, $1.95.

Section boxes for surplus honey, 13 cents each.

Cases, 22 each to hold 4 section boxes, can be had in any quantity.

3d. Plenty of work to be had during haying and harvest threshing, &c, at from $2 to $3 per day and board. We can raise any amount of broom-corn or any other corn you wish to plant. I should think broom making could be made to pay here as they are worth from 40 cents to $1 each, according to quality. There has been no broom-corn raised here for market yet, that I know of.

4th. We think fruit raising and bee-culture our "best hold" here. We raise apples, peaches, plums, apricots, quinces, figs, almonds, walnuts, oranges, lemons, blackberries and strawberries. Of grapes, we can beat the world. I have the White Muscat, Fleming, Tokay, Rose Peru, Hamburg and Mission, or native California grapes. We also raise pumpkins, squashes, melons of all kinds, beets, beans, potatoes, sweet potatoes, and in fact, anything which will grow anywhere from the Equator to the Arctic Circle.

5th. This country is good for men with much or little means.

6th. Country new and inhabitants scattering, but coming in pretty fast. I am 12 miles from coast; from post office 5 miles; have no school now, but expect to have this summer in the new Granger's hall, which I am now building near the post office.

7th. Don't know of any improved land with buildings for sale, unimproved from $2 to $10 per acre. Government land for the taking up.

8th. The same land needs irrigating for summer crops, not for grain or grass. Bees make honey nearly all or all the year round.

9th. Cost of clothing about 25 per cent. above eastern prices. Flour $5.50 to $6.50 per barrel. Beef 5 to 6 cents. Will not pay to ship anything but bedding and clothes.

10th. Society good.

11th. Climate healthiest in the world. No cholera that I ever heard of. Very few poisonous reptiles. Once in a while a rattle snake may appear. I have killed 4 or five in the yard since I have lived here.

12th. Rough lumber, red wood and pine, at $26.00 per thousand feet. Common red wood planed on one side, $28.00 to $30.00. Rustic, $45.00. Matched pine flooring and ceiling, $35.00. Surfaced red wood, $40.00. Bee hive lumber, $30.00. Nails, $5.50 per keg for 8ds. Doors, $2.25 to $4.00. Windows, $3.25 to $6.00.

13th. Hauling can be done for $10.00 per thousand feet. Climate so mild that a very cheap house will answer. Never any snow and but little frost. Never cold enough to need a coat on, except at night or when it rains.

Pruning Bees.

Most apiarians would be benefitted vastly by having the combs lifted out of each hive just before they gather any quantity of honey to fill the combs and give them a thorough examination; some have too much drone comb which should be cut out; others have ill-shaped or crooked combs, which may be straightened or cut out. Brood combs after being in use a few years, get filled up with cocoons so as to reduce the size of the cell and require more labor of the bees to keep them in order than to make new ones. We have extracted out of one cell forty-four cocoons or bee shrouds, which was evidence that forty-four bees had been raised in this cell; such combs should be rejected, but not on account of being black or of a dark color.

The dressing up of the combs of a stock of bees, if properly done, will encourage and infuse new industry into them. We have known colonies that were doing little or no good, which, by pruning, were made to pay a large per cent. The combs of each colony should be examined, at least once a year; a careful inspection will do a prosperous colony no harm, while it will aid the defective ones.—*Sel.*

Bee Pasturage.

The right time to sow buckwheat for bee pasture is about the first of July. If sown then, it not only forms the best pasturage for the bees, but usually yields a good crop of seed. It is one of our best honey-producing plants. The proper quantity to sow to the acre is one peck, although some prefer to sow two pecks. I raise it largely, and succeed best by sowing only one peck to the acre. The number of acres required for thirty colonies of bees will be about four, if it is a good season for securing honey. I have known one acre of buckwheat to furnish food enough for bees, so that 800 pounds of honey and 85 bushels of grain were made from it. This was, however, an unusually favorable season. Five acres are the least that should be sown for the number

of colonies mentioned, as it is better to have too much than not enough.

I have not tried the alfalfa clover. It can be had of any of the seedsmen in St. Louis, the retail price being 75 cents per pound, prepaid by mail. I would also suggest the sowing of melilot or sweet clover, for it is a No. 1 honey-producing plant. The price is the same as that of the alfalfa. I would sow in addition to those named, alsike clover, catnip and rape seed. The latter named plant delights in a rich soil. J. G.

For the American Bee Journal.

Do Bees Sleep.

It has not, we think, been proven that bees ever sleep. We have never seen one either in winter or summer asleep. Analogy and their very active industrious habits would lead to the belief that they do sleep. When, where and how they sleep, we have hitherto been unable to discover. In summer they work both night and day, and never seem to tire. In early life we thought they worked harder after a day of rest—that is to say, if weather kept all at home for twenty-four hours they were recruited in strength and vigor, and worked better the day following. In later years we have considered that in the absence of outdoor labor more work is done in the hive. When weather is favorable and honey abundant we know that frequently honey is gathered into hives faster than the indoor laborers can manage—it accumulates too fast on their hands. The cessation of outdoor work for a time enables the bees to remove the accummlations of honey from the center combs, and store it up in their outer and upper edges. Thus the domestic arrangements are advanced, and room made for more honey, and more laborers are set at liberty to gather it. When bees have no domestic work to attend to, as is the case when a swarm is put into a hive of empty combs, they work prodigiously fast. By-and-by the brood and honey of such a hive require much attention. Hence, outdoor work activity seems to abate. But when no bees leave their hives we have never been fortunate enough to find one asleep or anything like it. Young queens on coming to perfection sometimes pipe or call for seven days without cessation. During that time they can get no sleep. And if in be true that pregnant queens deposit in cells two thousand eggs a day—that is, eighty eggs per hour, throughout the summer months, when, pray, can they find time to sleep.

In winter bees have few domestic duties to perform, and there is no honey to gather. But the question of bees sleeping or hybernating in winter is just as difficult to answer as that of sleeping in summer. I know what others say on this question, but I like to read nature through my own eyes. I have examined hives at all seasons, even when there were 20 degrees of frost, and I never found a bee asleep. Still I do not say that bees never sleep. Can any of your readers give evidence on the question.

A. PETTIGREW.

From the Practical Farmer.

Ages of Bees.

The queen passes about three days in the egg and five a worm; the workers then close her cell, and she immediately begins to spin her cocoon, which takes her from twenty to twenty-four hours. On the tenth and eleventh days, and perhaps a part of the twelfth days, she seems to be exhausted by her hard labor. She now remains in almost complete repose; she then passes four or five days as a nympha, and on the fifteenth to the sixteenth day a perfect queen is attained. Much depends upon the strength of the colony and the heat of the season, which will vary it from one to two days.

The drone passes three days in the egg and about six in the worm, and changes into a perfect insect on the twenty-fourth day after the egg is laid. Much depends on the strength and heat of the colony, which should be about 70° Fah., for their speedy development. They lay in rather a dilatory state for several days after they hatch, before taking wing.

The worker bee spins its cocoon in thirty-six hours. After passing three days in the egg in this state of preparation for a new life, it gradually undergoes a great change, and becomes armed with a firmer body with scales of a brownish color and somewhat fringed with light hairs. On its belly it has six rings or scales. After it has reached the twenty-first day of existence—reckoning from the egg—it comes forth from the cell on the twenty-first to the twenty-second day a perfect insect, and is termed an immago. Though the simple stage of the worker bee, as it is fully developed when it comes forth, except in size, it soon becomes a sportive inhabitant of the air, and ready to enter upon the duties of gaining a livelihood, which varies from six to eight days from its birth, the all seems to be business the remainder of their existence.

A. F. MOON.

The Southern Kentucky Bee-Keepers' Convention.

The Convention met according to adjournment at the residence of R. A. Alexander, near Smith's Grove, Warren county, Ky., on Monday, the 19th of May. The Convention was opened by prayer by R. W. Stithe, of Harden county, Ky. Roll called, all the officers present and most of the members.

Prof. Wheeler addressed the Convention on the objects of the meeting, and urged all bee-keepers present to become members of the Convention. On motion the Secretary read the constitution and by-laws, and the following persons gave their names as members of this Convention:

James Erwin, Claypool, Ky.; B. F. Doddson, Knob Lick, Ky.; Dr. J S. Stephenson, Glasgow Junction, K.; I. W. Landrum, Tracy, Ky.; I. H. Greer, Glasgow Junction, Ky.; J. W. Cook, Smith's Grove, Ky.; J. C. Stithe, Smith's Grove Ky.; J. W. Scriman, Smith's Grove, Ky.; T. E. McDancel, Smith's Grove, Ky.; Moses Potter, Rich Pond, Ky.; R. W. Stithe, Grand View, Ky.; R. F. Bethel, Glasgow, Ky.; J. H. Johnson, Allensville, Ky.; Ky.; Wm. Cheek, Burksville, Ky.; T. E. Shelton, Russelville, Ky.; Miss Molly Shelton, Russelville, Ky.

The Secretary read a communication from Charles Dadant, of Hamilton, Illinois, on the importance of removing drone combs and replacing it with worker combs. On motion, the thanks of the Convention was tendered Mr. Dadant for his valuable communication, and the Secretary was ordered to have it published in our local papers. The President appointed the following committees:

On apiarian supplies on exhibition, L. P. Smith, John H. Wallace, R. S. Munford, Moses Poter, R. F. Bethel, J. H. Johnson.

To prepare questions for debate at evening sessions, Prof. C. M. Wheeler, H. W. Sanders, R. A. Alexander, R. W. Stithe, J. H. Johnson.

On motion the Convention adjourned till 2 o'clock p. m.

EVENING SESSION.

President Allen in the Chair.

The committee on questions for debate, reported the following questions, and on motion the report was received and committee discharged.

1st question. What is the best time of year to transfer bees?

2d. Is artificial swarming better than natural swarming?

3d. What is the best vegetable to cultivate for bees to gather honey from?

4th. What season of the year should bees be fed?

5th. How can we manage bees to secure the greatest yield of honey?

C. M. WHEELER.
R. W. STITHE.
J. S. STEPHENSON.
H. W. SANDERS.

The Secretary presented an account for $2.00 paid out for stationery and postage for this Society which, on montion, was ordered paid.

The first question was then taken up: What is the best time of year to transfer bees?

Mr. Munford said if they were in bad condition, they ought to be transferred without respect to the season of the year; was not much in favor of transferring if hives were in good condition.

Mr. Cheek said he had but little experience in transferring, that he had 30 hives mostly in box hives; said he found robbers were very troublesome while transferring when honey was scarce. Said he had a uumber of hives to transfer, and that he came for information.

Mr. Smith said he preferred early spring to transfer, that he fed the surplus honey, and if there was none, syrup made of A coffee sugar.

The President said bees could be transferred at any season successfully, if fed and cared for after transferring. That he preferred early spring in fruit blossoming time or about the time white clover begins to bloom.

The second question was then taken up; Is artificial swarming better than natural swarming?

Mr. Munford said bees are sure to prosper the best when they were troubled the least, did not like artificial swarming, thought it best to allow them to swarm naturally.

Mr. Alexander was in favor of artificial swarming, said he could give the new swarm a queen cell, or a laying queen, and with care we were sure of increase of colonies, as no bees would run off and be lost, as was often the case with natural swarms.

Mr. Munford.—There is no danger of loosing bees by natural swarming, if you have a suitable place for them to cluster, that he never lost any. A few years ago he swarmed a great many artificially, and the next spring they were all dead.

Mr. Smith.—Two years ago I knew nothing about bees; saw Dr. Allen, the President of this Society, and he told the advantages of the Langstroth hive. I got some hives transferred, and they had but little brood, and in 30 days they were rich in stores, and had filled the top story with comb and honey, I made three new swarms out of the four, and they filled their hives and wintered well. I transferred them at the beginning of the white clover harvest.

Mr. Cheek.—My experience in artificial swarming is not very great; but I can say I like it very much better than natural swarming. I save the trouble and vexation of watching our bees, and securing swarms clustered in difficult places to get to. Artificial swarming is preferable in many other respects.

Mr. Munford.—If I was a professional apiarian, I would use the Langstroth hive, but would keep some in box hives to get natural swarms from.

The President said he much preferred artificial swarming; said there was various methods of making artificial swarms, he liked to have a laying queen to give the swarms. If when they are swarmed, the honey harvest was poor, they would put on feeders, and keep them on until the hive is full. The time for debating the questions having expired, on motion the discussions closed, and the remaining questions held over until the next meeting of this Society for discussion.

The committee on apiarian supplies reported as follows:

We would respectfully report that we have examined the honey extractors of R. R. Murphy and J. W. Winder, and think both are well adapted for extracting the fluid honey out of the combs which can be re-

turned to the hive to be again filled. We have also examined the Quinby and the Winder smokers for subduing bees, and can recommend them as valuable aids in the manipulations of an apiary. We also examined the glass honey jars of C. T. Muth, of Cincinnati, which pleased us very much, and we recommend them to honey producers for marketing fluid honey.

R. S. MUNFORD.
L. P. SMITH.
J. H. WALLACE.
R. F. BETHEL.

Prof. Wheeler offered the following resolution which was unanimously adopted:

Resolved, That we tender our thanks to the President and Secretary for their labors in behalf of this Society since our last meeting.

On motion of P. P. Colin, this Convention tenders Mr. Alexander and lady their thanks for their kind hospitality and sumptuous dinner.

On motion of Mr. Cheek, the Southern Kentucky Bee-keepers' Society adjourned to meet in Burksville, Cumberland county, Kentucky, the third Wednesday in September next, at 10 o'clock a. m.

H. W. SANDERS, Sec'y.

The Bee Hive.

BY DR. S. V. SUMMERS, ENTOMOLOGIST.

1. The impression seems to be general that bees make honey, secrete wax, and perform other unique and semi-marvelous facts, quite at variance with other gregarous insects; hence we not unfrequently find our agricultural papers teeming with some wonderful manifested proceedings of these social tribes, confusing the novice, and deterring others from this instructive and profitable vocation.

2. We shall endeavor to confine our remarks to as practical and elucidated an account concerning these admirable insects as our space will admit.

3. The inhabitants of a hive comprises —one female, usually denominated a queen, a few hundred males or drones, and a multitude of neuters or workers. The female or queen bees have their *abdomen* more elongated, the color and markings scarcely differ from the males, head larger than the workers, tongue more abreviated, maxillæ less curved, mandibles furficate, angles less prominent, apex toothed, the external tooth acute and the internal obtuse or truncate, color piceous with redish cast, labrum fluvous, antennæ piceous, scales at base of wings rufo-piceous, wings only reaching to tip of third abdominal segment, tursi and apex of tibæ rufo-ulvous, the posterior tribœ are naked above, below clothed with short, dense, erect hairs, having the marginal border of hairs wanting, abdomen longer than head or throax combined, tip or dorsal segments of fulvous, clothed with very short, pliable, erect hairs. The males or drones are quite the reverse: body thicker, stouter, more clumsy, and very obtuse at extremity, head more depressed and orbicular, tongue shorter and more slender than in the females, mandibles smaller, wings longer than body, tibiæ long, club shaped, clothed with inconspicious hairs, abdomen cordate, short, not longer than head and throax, third and dorsal segments apparently naked, hairs only visible under a high magnifying power, remaining segments hairy. The neuters or workers are undeveloped females; they have a more elongate body, tongue longer and incurved, wings approximating the apex of the fourth abdominal segment, legs all black. posterior tibiæ naked above, concavo-convex, clothed with lateral and recumbent hairs, abdomen oblong, longer than head and throax combined, clothed with long flaveous hairs, vagina of the spicula straight.

4. Having detailed you to the different varieties contained within a hive—the existence of but a single female—you may feel somewhat curious to learn her origin. When a colony of bees by any mishap lose their queen, and are supplied with comb containing young working larvæ only, they will select one or more larvæ to be *educated* as fertile females or queens, which, by having their workers' cells enlarged and being fed with choice honey for not more than two days, when they emerge from the pupa state will come forth queens. Had they remained in their original cells, they could only have bred workers, yet here we have them with their form, instinct and powers of generation entirely different. In order to produce this change, the larvæ must not average more than three days old, and this is the age at which, according to M. Schirach, the bees usually select the larva to be royalized. Having selected the larva, they clean out the food and occupants from the two cells that adjoin the favored larva; they then remove the three cell walls, leaving the bottoms untouched, thence they raise round the queen larva a cylindrical tube, in a horazontal position to the other cells; this completed then they demolish the cells immediately beneath, from which they construct a pyramidical tube, which joins at right angles the horizontal tube. The bees keep lengthening this cell as the larva grows in size, at the same time they are constantly supplying it with food, deposited at its mouth and sides of abdomen. The larva keeps up a constant turning to reach this food, and thus insensibly arrives at the orface of its cell, when it immediately assumes the pupa, after which the workers close up the cell. Thus with this knowlege before us, we are at once informed how to make artificial swarms, and that this art of producing queens at will is no doubt practiced by many an apiarian of to-day.

5. With respect to the variations of instinct and character which result from the different modes of rearing the young bees, that we are now considering: Their instinct teaches them a certain kind of food, supplied to a larva inhabiting a certain shaped cell, in a certain position, will produce certain effects upon it, rendering it different from what it would have been under ordinary circumstances, and fitted to answer their peculiar wants.

6. The queen bee requires some sixteen days during her preparatory stages before she is ready to emerge from her cell. All bee larvæ are without legs, still by the before mentioned spiral motion are enabled at first to produce a slow movement, but after this it is more easily discerned.

Another notable fact connected with the life history of these insects: I refer to the cocoons. The larvæ of the drones and

workers spin complete cocoons, while those of the female or queen are incomplete or open at the lower end, and cover only the head, trunk and the first segment of the abdomen.

7. Our limited space will forbid any remarks concerning the hive structure or comb.

8. When fecundation has not been retarded, two days after it has taken place, the queen begins to lay eggs that will produce workers, and this occupies her sole attention during the first eleven months. But when it has been retarded, after the same number of hours she begins laying eggs and continues to produce these during her whole life, the exception to this rule is exhibited in females pregnated late in the year, when they don't begin laying until the following year. Reaumur says, that "upon an average she lays about two hundred eggs in a day, or a moderate swarm contains 12,000, which are laid in two months." Huber says she lays "100 a day;" while M. Schirach asserts, that in "one season a single female will lay from 70,000 to 100,000 eggs." All these statements, the observations being made in different European climates and perhaps under different circumstances and conditions, may be true.

9. The swarming of bees is a very curious and interesting subject. Unlike other gregarious insects, bees are confined to a limited space, which they possess not the means of enlarging; hence, to avoid the ill effects resulting from being too much crowded, they must necessarily emigrate. This they generally perform annually, but it does not happen that they often wholly desert a hive.

10. It may be as well to add that bees only collect honey and wax from plants, and do not manufacture them, as many suppose. In some future article we will give you an account concerning the so-called wax secretions.

11. In conclusion we wish to say a few words to the amateur bee-keeper: Procure a good colony, at a cost from $15 to $25, including hive. This expense is final, as you may easily construct all future hives yourself, at a very trifling expense. Your original colony, properly managed, should give you from three to six colonies at the end of the first season, so that your first supply of surplus honey will occur at the end of the second year; say at twenty pounds each hive, this would give you 120 lbs. net, which at thirty cents per pound, leaves you the nice little margin of $11, besides eighteen or twenty additional colonies for the ensuing year. It would not seem advisable to breed over 200 colonies, which will require six miles of pasturage, unless artificially fed.

12. With regard to the comb or wax: The bees extract it from the honey; every pound of wax represents about 25 pounds of clear honey: hence the preservation of old combs becomes of paramount importance; and right here in this connection, may be mentioned the invention of Van Hrushka, of Legnano, Italy, in a machine for extracting the honey from the combs without injuring the cells, so that the same comb may be used by the bees repeatedly. "To give a general idea of this machine, immagine to yourself a horizontal disk put in a rotary motion by a wheel; upon the edge of the disk are eight perpendicular parts, surrounded or connected by a wire screen, and thus forming an octagon on the disk. If now you hang the uncovered combs with their frames upon the post in the inner side of this wire octagon, and put the disk in motion so as to make about six revolutions per second, the combs will be emptied in one or two minutes. The honey is caught in a circular tube surrounding the disk, and drawn off at the bottom."

13. Remember, the great secret in breeding bees successfully, as in all other orders of insects, consists in observing their natural conditions as close as possible. Everything of an artificial nature tends to create disease and failure. Spare your cost from patent hives, Italian queens: and procure the works of J. B. Minor, M. Quinby, L. L. Langstroth and the Hubers.

New Orleans, La.

Honey Dew and Where it Comes From.

The honey bees are at the present time very busy engaged in gathering honey from the leaves and boughs of the cotton-wood trees in and about Sacramento. The casual observer may have noticed that the leaves of these trees have an unusually glossy appearance just now, and seem to retain the dew of the preceding night much later in the day than the leaves of other trees adjoining them. This is the honey dew season of these trees, and the bees are making the most of it. With this fact the matter is dismissed by the general observer, and nothing more is thought of it. A little closer examination reveals the fact that the bees are not the only insects at work on these leaves and boughs, and that the material which gives them a glossy appearance, instead of being evenly distributed over the surface of the leaves, is found in a large number of little specks. A microscope being brought into requisition discloses the fact that almost every leaf, and especially the new and tender ones, is a pasture upon which are feeding great numbers of insects of many sizes, forms and colors, and that the spots or specks on the leaves are the excrescences of these insects. These excrescences form the real honey dew that attracts the honey bees and upon which they feed.

This is undoubtedly the general source of honey dew, on all trees and shrubs in the early part of the season. These little insects, often so small as not to be distinguishable with the naked eye, feed upon the leaves and tender shoots, converting their sap into a thick sugary substance, which they exude, and which during the day dries up and adheres to whatever surface it is deposited upon, but when the evening comes and the air cools and parts with a portion of its dampness, this dampness softens the sugary substance so that it drops to the ground, covers the grass and soil with what is generally known as honey dew. While this is going on the bees are very early risers, and as soon as it is light may be heard in the morning gathering honey while in a fluid condition. The honey gathered in this way partakes more or less of the nature of the tree or shrub from which it is made. That made from the cottonwood is of a dark color and a pungent taste, and not much valued as honey.

There is also, especially in dry seasons, often a great deal of this honey dew in the fall. In this part of the state the common scrub oak yields more than any other tree. We are not now able to state whether this is also the work of an insect. If it is so, it is of an insect too small to be seen with the naked eye, and we have never tested the question with a glass. The honey gathered from the oak is much lighter colored and of better quality than that from the cotton-wood.—*Sacramento Union.*

How to Lodge a Swarm.

In the account which was given of a beginner's early experience, and the unsuccessful attempts that were made by himself and his friend to secure a swarm, we promised to notice some errors that had been committed. Several might be mentioned, but we shall advert to those only that were the immediate causes of failure, and led to the repeated migration of the housed colony. They may be reduced to two, the beginner being guilty of one, and the old apiarian of another.

The mistake of the former, to say the least of it, was the more stupid. It consisted in turning the skep, the moment it received the swarm, over to its natural position, without first covering it with a board to prevent the bees falling out. The error of the latter lay in being too hurried; and, as this is a fault of the gravest character, causing much unnecessary labor and sometimes loss, it will be proper to give it some consideration; for what happens when a hive is quickly inverted after a swarm is put into it? Do not the bees just fall down in a mass upon the board? And if the entrance has been left open, as is generally the case, will not the pressure of the fallen bees against the unresisting point cause an outward current which may be followed by a general rush of the whole community? A movement once begun is not easily stayed, and prevention is always better than cure. It is not the part of wisdom to run risks that may be avoided.

The reason why a newly-lodged swarm tumbles out when the hive or skep is immediately turned over, is just because the bees have not been allowed sufficient time to take hold of the sides of the interior and of each other. If a footing has not been obtained, they cannot in their massed state prevent themselves from falling down, and rolling out like grain at every opening. Consequently, an inversion ought never to be made until after the lapse of several seconds, and when making it, care should be taken to do it slowly.

Operators are often in an unreasonable hurry to get the skep placed rightly upon the board, but it is of far greater importance to get the board placed rightly upon the skep, and keep the position for a little while unaltered. When a swarm is shaken or struck down into the crown of a hive, the bees are usually disposed to rise and take wing without loss of time. They spread themselves out and take the appearance of a thick lining all round the inside, and if in this condition the hive is gently turned over, scarcely any bees will fall down, or make an attempt to escape.

We wish the tyro in bee-keeping, therefore, after he had housed his swarm, to remember that anything approaching to roughness or haste in restoring the domicile containing it to its proper position must be carefully avoided. If this caution is neglected, the result may be, as has often happened, a case of bees lodged, but not of bees cured.

In our early days, when no assistant was at hand, we used to place three stones in the form of a triangle, or make a hollow by shovelling out some earth with a spade, for the purpose of keeping the skep steady, and preventing its toppling over after the swarm was put into it. This allowed the free use of both hands for properly adjusting the board and sweeping aside any bees that were in danger of being crushed. Then, when all was right, we placed one hand upon the board to keep it in its place, and put the other under the crown, and with the entrance uppermost made the required inversion.—*English Agricultural Gazette.*

Candied vs. Liquid Honey.

MR. EDITOR:—At the time I wrote the article that Mr. Dadant refers to, in June No., page 136, on the above subject, my honey had not candied, and at the same time, I know it was *absolutely pure* and not heated but put up in the way I there described. (See March No., page 61) I will now say to friend Dadant that since then it has candied as thick as lard: so I now believe he is right. I will here add that it was very cold until nearly May 1st, and you all know that it was a very severe winter; hence my surprise that my honey had not candied at the time I wrote that article, on the first of February. Let all who do not believe Dadant is right send along the proof.

We ought to have a law prohibiting the adulteration of honey, if not, those who produce the pure article will soon find no sale for it. I wrote to a friend at Louisville last week to ascertian the prospect for the sale of honey in his locality, and received the following answer:—"The honey market is remarkably dull and prices low; so much of the Chicago stuff on the market.

Would like to say a word in reply to other correspondents, but have no time at present, this being a very busy season with me.

R. M. ARGO.

Lowell, Ky.

For the American Bee Journal.

Reply to Mr. Root.

MR. EDITOR: I must say that I was very sorry on receiving the May No. of the AMERICAN BEE JOURNAL, to find Mr. Root's testimonial among the list published, and it will be a sufficient apology to the readers of the JOURNAL, as well as the vindication of my own honor, when I say that I have been absent from Illinois for two years, and left the business and all papers in other hands. I know nothing of the plans for advertising this spring, but suppose when they decide to publish testimonials, Mr. Root's being among them, and considered a truthful one, by them, went in with the others. I have as good testimonials as any published, received within a year or two, and from those experienced in the use

of different extractors. I have no doubt our machine would tire one, in running it all day, more than a geared one, but in simplicity, strength and durability, we still honestly think, that we are ahead. Gearing to machines is slender and liable to break and wear out, then they are worthless, unless new gearing is obtained.

Mr. Root intimates that part, only, of his testimonial was given. I have a copy, and will give it word for word.

MEDINA, O., Nov. 16, 1871.

Mr. Peabody.

DEAR SIR:—In answer to your inquiry as to how we like your Extractor, would say that they answer the purpose perfectly in our apiary, and that every one which we have sold is giving perfect satisfaction. No instruction at all is necessary in using them. We at first thought them rather high at $15, but after making careful estimates, from our own practical knowledge of mechanical work, we decided that a machine so neatly and durably furnished, could not well be made for less money. A. I. ROOT & Co.

Yours Respectfully,
Denver, Col. J. L. PEABODY.

Notes and Queries

My bees wintered through and no loss of swarms. Are now out in their summer stands—eight in all, one in the woods. Extracted over 100 lbs. and left lots in the hives. Could extract quite a lot now and not rob them. I am greatly encouraged.
W. W. MOORE.

P. S. I should mention in addition to the extracted honey, I had in box and cracked combs perhaps 75 lbs. more. W. W. M.

We congratulate Mr. Moore upon his success. He is doing well for a beginner, and answering the question so often asked, "Will bees do well in Northwestern Iowa?"

How is the New Idea Hive constructed? B. L. Taylor calls it the Gallup Hive and recommends it for wintering. What do you think of it? WM. HERRING.
Allen, Ind.

The Gallup or New Idea Hive is simply a large hive containing more of the same sized frames as are used in any hive. Some hold 18 frames, some 20, and we have seen them made to hold even 30 frames. Some of these frames can be taken out in the fall and straw or corn-cobs put in the empty space, if left on their summer stands.

We hear reports from others whose bees did not winter as well as Mr. Taylor's in the Gallup hive. We suspect his success was quite as much on account of the condition of his bees in regard to their stores, and when these stores were in the hive, as became of the hive itself. We are certain that all of successful wintering depends on something besides the hive the bees are in. The "New Idea" hive is *not* a double-walled hive.

I have four strong hives of bees, and contemplate dividing now and in case they run short of honey, stimulate, and keep them up by feeding sugar syrup.

My bee-keeping friends here have never divided before white clover blossoms, and cannot inform me whether bees will contract comb from syrup or not. May be it is in the authorities, but I have run through the index of last year's JOURNAL and read Quinby's chapter on artificial swarming, and this point is not touched.

Will I gain anything by proceeding as mentioned? I intend to place syrup in the can, and feed through the hole in the honey board. Is this right? Plum trees are just coming into blossom.

Horicon, Wis. C. B. BILLINGHURST.

Bees will construct comb when fed on sugar syrup, if the temperature of the hive is high enough. Your way of dividing is a good one. Be sure to feed regularly until honey is abundant in something outside the hives.

I have three stands of Italian bees, in Langstroth hives. One of them lost its queen during the winter, and is now doing very poorly, under the management of a fertile worker. What shall I do? There are bees and honey enough, and brood, such as it is? I have Quinby, what is the next best work on bees? STEPHEN HALL.

There is no remedy far a fertile worker that we can recommend, except to break up the colony. We have tried in vain to do anything else. The bees seem usually as well satisfied with the fertile worker as with a queen, and it is difficult to discover which one is the layer in a hive full of workers.

They will kill a queen if introduced and they usually refuse to build queen cells, even if brood is given them. We advise to break it up.

To do this we would take the hive up and carry it some distance away, setting another hive in its place, and in this hive put some combs and brood. The working force will go into that hive and not finding the fertile worker there, will rear a queen. The fertile workers do not leave the hive, and will be in the removed one. After a few days the bees will all be gone from these combs except a few, and you can take the combs away and give them to any hive you choose.

If there is a better way to get rid of fertile workers, we do not know it.

Prevention is easier than cure in this case. We think no hive has a fertile worker until it has been queenless some time. Open and examine often, and as soon as a hive is queenless, provide it a queen, or queen cell, or brood, and you will not be troubled.

How shall I prevent robbing among my bees? What is the best way to feed them? Please name a good method for curing dysentery. I have lost 8 out of 50 stands by this disease. Would you let bees have their frames filled with honey comb to winter on?

SARAH HARPER.

You will find our advice with regard to robbing in "Seasonable Hints." We think dysentery was caused among your bees by their having too much honey in the combs, and too little space empty, for them to cluster in comfortably.

If you had used an Extractor among your fifty hives last fall, you might have saved those that are dead, and had honey enough to pay, over and over again, for the Extractor. We would not advise taking the comb away, only to empty part of it. The dysentery will disappear as pleasant whether and natural honey comes. Feed sugar syrup.

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W. W. MOORE.

P. S. I should mention in addition to the extracted honey, I had in box and crocked combs perhaps seventy-five lbs. more.

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A Letter From Italy.

The following letter is from the Editor of *Le Apicoltore*, a monthly bee journal published in Milan, Italy, an advertisement of which may be found in another column:

Associazione Centrale D'Incoraggiamento per L'Apicoltura in Italia, Milan, May 11, 1875.

Thos. G. Newman, Publisher A. B. J.

HONORED SIR:—Your JOURNAL is found exceedingly interesting here, and together with the *Bienenzeitung*, it is considered one of the best journals of bee-culture published. We very often publish in ours extracts from it, endeavoring to instruct our readers in everything which takes place in your country with regard to the culture of bees.

Last year was extremely disastrous for bee-culture, in consequence of our climate's inclemency. The bees were unable to find honey enough in flowers, and the places where there are autumnal flourishings were the only lucky ones. There was great mortality in rustic hives, especially towards spring, but movable comb hives have all or nearly all outlived, and are now swarming and completely filled with honey; so much so that we were obliged to give them more room. Therefore it appears that this year will be an extremely favorable one.

I do not know if you have ever heard of a new publication by our Central Association, *the cromolitographic tables* upon the anatomy and the enemies of bees. This is a beautiful work of thirty tables which cost altogether 20 fr., gotten up with the utmost care. They were very much appreciated at the universal exhibition of Vienna, and at the meeting of German bee-keepers which took place last year at Halle au der Saale. I should be grateful were you to speak of them in your JOURNAL. You can ask Mr. Dadant, of Hamilton, Ill., about them. He is acquainted with them, and he will communicate you his opinion. Meanwhile I have the honor to subscribe myself,

ALFONSO VISCONTI DI SALICETO,
Secretary of the Central Italian Association, and Director of Apicoltore.

Voices from Among the Hives.

G. ILISCH, Hickman, Ky., writes:—"My bees are doing well. I hear of but little loss here during the winter, and swarms are very strong. Poplar and honey locusts are in bloom."

N. P. ALLEN, Smith's Grove, Ky., writes:—When I wrote you the first of April, my bees were gathering honey from the peach and apple blossoms. I had a number of hives in top story, and expected to take a nice lot of fruit-blossom honey. But it turned cold, froze all the blossoms and killed all of our fruit. No honey has been gathered since, except what white clover has furnished, and that is very little. It seems there is no honey in the flowers. It is a gloomy prospect, and I fear many swarms will perish for the want of stores.

H. M. ROOP, Carson City, Mich., writes:—"I wintered 100 stocks in a dry cellar, under my dwelling, without any loss; no dysentery nor signs of any. I housed my bees Nov. 12. Kept the temperature of cellar at 40 to 45 degrees above zero. Set them on summer stands March 29. Combs bright and clean and bees quite cross; the worst sting I ever got was while taking my bees out of the cellar this spring. I also had some buried, and two left out of doors on summer stands, in double walled hives. I lost one of the out-door stocks and one of those that I buried, the rest came out all right, but another polar wave put in an appearance, April 15, which stopped brood rearing in all stocks except those that were strong. I united the weak stocks and kept them all strong enough to rear brood, in spite of cold weather. I now have 80 strong stocks with one set of extra combs for about 50 of them, for extracted honey. The past winter has convinced very many that bees cannot be wintered here with any kind of success.

W. C. PORTER, Albany, Missouri, writes: "There are a good many bees in this locality. This year promises to be a *good* one for honey, where the grasshoppers have not destroyed vegetation."

CHAS. F. MUTH, Cincinnati, O., writes: "We have a peculiar honey season in this part of the country. Fruit and locust blossoms were frost-killed, and white clover has now (June 9th), commenced to make its appearance very sparingly. My bees have eaten up their stores, but as a little honey is shining yet in some of the cells and as my time was occupied rather too much by other business, I have kept from feeding so far. Friend Hill, Mt. Healthy, who has, undoubtedly, the best arranged apiary in the State of Ohio, told me the same of his bees yesterday. He thinks that we are all 'candidates for blasted hope' in this part of the country, as far as honey is concerned."

J. B. RAPP, Owensville, O., writes:—"The past winter and spring have been the most unfavorable seasons for bees that has ever come under my observation. About three-fourths of all the bees in Clermont county have died, the balance are in very poor condition. We had a disastrous frost that destroyed all the blooms of the fruit trees, and nearly all of the small fruits, and the black locust did not bloom either; and to-day I opened two hives and was troubled very much with robber bees. I went into winter quarters with 29 colonies. Some of them very weak, yet I did not lose one of them. I bought, in December, 9 colonies for $50, in box hives, and could not tell much about their condition. I lost 3 of them, the other six I transferred in March, and they are now in splendid condition. I have now, by increase and purchase, 42 colonies. We have had good rains lately and the white clover is looking very promising."

W. B. FREEMAN, Dundee, Ill., writes:—"I commenced about 25 years ago, with two swarms and held my own for about 12 years, when I came across "Quinby's Mysteries of Bee-Keeping," when I thought I could keep bees as well as others. I kept bees from that time to 1872, with very good success, ranging from 40 to 90, and got what honey we could without the extractor. I have always wintered in the cellar under the sitting room. Piled them up sometimes four high and never lost any to speak of. In the fall of 1872, I put 81 swarms in the cellar and took out 79; increased to 95, and put them in the same cellar in 1872, and took 7 light swarms, increased by purchase and otherwise to 30, and put them in the cellar in 1873. I took out three very light swarms, increased to 20, by purchase, and dividing, I put those in the same place, and have now only about one-half pint of bees left."

M. C. HESTER, Charlestown, Ind., writes: "I have just had the first lot of queens hatched from the queen I received from Mrs. Tupper last fall. They are all, without exception, beauties. I never saw a lot of queens, from the same mother, of brighter and more uniform color. She is very prolific, and her drones are also as fine as I could desire. I consider her a jewel. If all imported queens were as perfect as she, there would be discount on them. I only regret that the season is such that I cannot increase my stocks largely and supply them all with queens from her. We have the worst season for bees I have ever known. It seems there is nothing out of which they can make honey. My stocks are nearly all at work. Some of them I still have to find. It appears that even the white clover, of which there is a very scant crop, secretes very little honey. I have not seen a dozen bees on this bloom this season. The April freeze killed all the first bloom, and with it the poplar buds, the bloom of which is our main dependence for honey. The locust also failed to bloom, a thing very unusual. My bees are barely making a living. I don't expect any surplus this season."

BEES.—Sir John Lubbock, M. P., who devotes himself a good deal to entomology, dissents from the general idea in regard to the doings of bees. He claims that they are a selfish lot of insects, and holds that degree of devotion awarded the queen bee is altogether too great. There is great difference in the degree of their intelligence, and great peculiarities with reference to their time of work. He believed bees did hear, though he was never able to make any sound which they were able to recognize. He believed they had a keen sense of smell, and that would account in many cases for the antipathy or otherwise which they are said to have for persons. He found that the warmth or coldness of his body had much to do with their friendliness towards him.

Our New Club Rates.

We will send the AMERICAN BEE JOURNAL and the following periodicals for one year, for the prices named below:

THE AMERICAN BEE JOURNAL and Novice's Gleanings for	$2.25
King's Bee-Keepers' Magazine	3.25
Moon's Bee World	3.25
All four Bee publications	5.00
Swine and Poultry Journal	2.50
The Chicago Weekly Tribune	3.20
The " Weekly Inter-Ocean	3.20
The " Weekly Journal	3.20
The " Weekly Post and Mail	3.20
The Western Rural	3.70
The Young Folks' Monthly	3.00
The Prairie Farmer	3.70
Purdy's Fruit Recorder	2.25

ERRATA.—In Mr. J. P. Moore's article on page 142, June number, the word *not* was erroneously inserted, completely altering the sense. It should have read thus: "I preferred to handle bees out of doors, in bright sunshine, instead of handling in the bee house, as Mr. Coe says he prefers to do, in the May number."

Let every one writing this office make all Postal Orders, Drafts or Checks, payable to THOMAS G. NEWMAN. Address everything of whatever nature to

THOMAS G. NEWMAN,
196 & 198 South Clark St.,
CHICAGO, ILL.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, AUGUST, 1875. No. 8.

Seasonable Hints.

In August, colonies of bees that have been kept strong through the season of white clover and linn blooming may safely be divided. In our experience, large colonies with fifteen or sixteen combs do not winter as well as those containing eight or nine. If you want more bees, divide your colonies judiciously, by any of the ways so often given in the JOURNAL, and you may depend on having them build up into good strong colonies, in any location where buckwheat is raised, or where smart weed and golden rod are found.

For most parts of the West, honey, in the fall, is abundant, nine years out of ten, and if an increase of bees is preferred to surplus honey, there is no better time to divide than now. I need not say that all who have a surplus of queens on hand will make a great gain by giving every new colony a queen.

One correspondent writes: "Last year I had eighteen colonies, in large hives, of eighteen frames each. I had them full of bees when linn came into bloom, and it was wonderful to see how fast the honey was stored. I extracted it twice a week (I have no doubt I might have done it oftener), and secured an average of two hundred pounds to a hive; yet, when the linn went out, the hives were all full of bees and honey. I divided ten of them, the 8th of August, giving each hive nine frames each, full of comb and some brood, but very little honey. They all did well and by last of September I extracted an average of sixty-two pounds each of golden rod honey, with some buckwheat. All of these twenty colonies (nine frames each) wintered perfectly, but not one of the eight large ones that I did not divide came through the winter well. I am not able to tell why; but after this give me large colonies to get great yields of honey from, early in the season—but smaller ones to winter well."

We agree with our correspondent in this matter.

Be sure, in this month, that you have a fertile queen in every hive, and also that she has room to deposit eggs. In this month she may be so crowded for room as to almost cease laying, and the result of this will be that your colonies have too few young bees for safe wintering.

This is a good time to introduce Italian queens to black bees. Colonies to which such queens are given now will be mostly Italians by winter, and from these queens you can rear others in October.

Bees are, as a rule, too much neglected in the latter part of the season; it never pays better to be sure they are in good order than in the latter part of the Summer. It is now that the foundation must be laid for successful wintering. Much honey is often stored by bees in this and the next two months, and this year we look for a good honey yield in the fall. The rains have made weedy corn fields inevitable—and from them we get good quantities of fair honey.

Do not take it for granted that the bees will do little more and leave them with their hives full to hang about idle.

A man complained to me last August that his bees were doing nothing, and on examination we found every cell full of honey—not an inch of room where the bees could store anything. We used the extracts on a few combs and gave more room in supers and he then obtained more honey than he had done all the season before.

Don't expect your bees to do the managing. They have no power to put on boxes or to empty the comb. Give them every facility for their work and if there is any honey they will find it and store it.

Officious Meddlesomeness!

"It is an honor for a man to cease from strife; but every fool will be *meddling*."—Prov. XX. 3.

Whether from malice aforethought, officious intermeddling, or inexcusable blundering, it matters not; but some idiotic wise-acre has imposed upon the *Register*, published at Des Moines, Iowa, the residence of Mrs. E. S. Tupper, by getting the following paragraph inserted in its columns:

"The name of Mrs. E. S. Tupper does not appear any more as either editor or correspondent of the AMERICAN BEE JOURNAL."

And all through the state, the diminutive political luminaries that revolve around the *Register*, as reflectors of its political light, promptly copied the item, without caring to inquire whether it was a malicious statement, calculated to injure the party named, or not.

Mrs. Tupper has been engaged as one of the editors of THE AMERICAN BEE JOURNAL during the past year, and is still acting in that capacity. Quite a number of articles from her pen appear in this issue, as all observing persons will readily perceive.

Since THE AMERICAN BEE JOURNAL came into our hands, as publisher, we have engaged something like a score of eminent apiarians for editorial and other work on its pages, many of whom are as modest and unassuming as they are practical and scientific, and do not wish us to parade their names as editors or regular correspondents—thinking that the dazzling glory surrounding the scarlet tripod of the old and reliable AMERICAN BEE JOURNAL may abstract their attention from their private business, or mix it up in some unpleasant way with the JOURNAL.

Every one knows that there are many who delight in picking a quarrel with editors to serve selfish purposes, and often either the journal they edit, or the business they follow, suffer from such officious interference of selfish and meddlesome persons.

To avoid all this, we now decide to have the editorial columns of THE AMERICAN BEE JOURNAL impersonal. This plan has been for years adopted by nearly all the first-class publications of the world. Who knows the name of the writer of any article in the London *Times* or any of the great metropolitan sheets of this country? The articles themselves are taken upon their merits, and the paper in which they appear is alone responsible for their sentiments.

In future, as in the past, we shall procure mature brain productions for the editorial columns of THE AMERICAN BEE JOURNAL without reference to cost, and thus serve our patrons with the best the world affords in the line of apicultural research and experience.

Wise-acre correspondents of country papers are hereby cautioned against foolish remarks concerning THE AMERICAN BEE JOURNAL. If they desire to make personal mention of it, they may truthfully say that it stands without a successful rival in the wide world; that it circulates in every state and territory of the Union, in all the Canadas, Great Britain, and the continental countries of Europe, as well as South America and Australia; that its editors and correspondents comprise scientific and practical apiarians residing in almost every clime under heaven, and number many hundreds, while its students and votaries swell that number to many thousands.

THOMAS G. NEWMAN, *Publisher.*

Bee Enemies.

MARSHFIELD, MO., June 30, 1875.

MRS. TUPPER: Enclosed find a *fly* which kills bees. Some of the citizens call it *Fly Catcher;* others call it *Snake Feeder.* I don't know what it is, but I know it catches bees and kills them, and send it to you with the hope that you can inform me what it is and how to destroy it. There are many of its kind in this part of the state, and unless I find some more successful mode of destroying it than I have yet, it will greatly hinder my increase of bees.

J. STUART.

We referred Mr. Stuart's letter and specimen to Professor C. E. Bessey, Professor of Botany at the State Agricultural College, at Ames, Iowa. The following is his reply:

STATE AGRICULTURAL COLLEGE, }
Ames, Iowa, July 14, 1875. }

MRS. TUPPER—*Dear Madam:* The insect referred to by Mr. Stuart is what is known as the Bee Killer, a species of fly of the genus *Asilas*.

It has frequently proved very destructive to bees in the west, and I have no doubt that your correspondent is making a just complaint.

Mr. Riley testifies to having seen this insect at work in Shaw's Gardens in St. Louis. He says "they capture the bee on the wing, pouncing upon it with lightning like rapidity; then grasping it securely with their forelegs they alight upon some plant or even upon the ground, and rapidly suck out the inside of the bee with their stout and powerful proboscis, leaving the empty shell when they get through." [1*st Rept. p.* 168.]

One bee grower testifies to having found the remains of *one hundred and forty-one* bees, which had fallen victims to this enemy *in one single day.* [*Idem. loc. sit.*]

It *would pay* to set a boy to work catching these Bee Killers. This can easily be done by waiting until they alight and then clapping a net over them.

I shall speak a good word for the King Bird, or Bee Bird right here, for while I do not recollect ever to have seen it devouring the Bee Killer, yet from its known insectivorous habits, I have no doubt it will do its share in keeping this enemy in check.

It would be well to suggest to some of the bee keepers who live in the districts infested by Bee Killers that they watch carefully to determine whether or not any birds, and especially Bee Birds, destroy them.

C. E. BESSEY.

Milkweed Asclepias.

The Rev. E. Lewis, Frankfort, Marshall county, Kansas, sent us three mutilated bees, with their enemies hanging to them. He says: "They are from a very strong young hybrid hive. I find many of the working bees with more or less of these indescribable pests hanging to their feet. Some are dying in the hive and are being dragged out by their fellows, while others are toiling with their clogs on their feet. Will you please examine these subjects and inform me through the JOURNAL what these pests are, and what I shall do to get rid of them.

I came here last April, from Douglas County, in this State, bringing one Italian and five hybrid stands with me; now I have three Italians and ten hybrids; all were doing well until this scourge appeared."

We sent them to Prof. C. E. Bessey, Professor of Botany at the State Agricultural College at Ames, Iowa, for examination, and received the following reply:

STATE AGRICULTURAL COLLEGE, }
Ames, Iowa, July 15, 1875. }

MRS. TUPPER—*Dear Madam:* The enemies referred to by your correspondent are the pollen masses of the milkweed, (*Asclepias*) and probably those of the large purple species. These little masses belong to the flower, and are possessed of sticky pads by which they adhere to the legs of the bees, wasps, and other insects which visit them.

The only thing to do to obviate the difficulty is to mow down the milkweeds before they come into blooming.

C. E. BESSEY.

How to Do It.

In order to assist our friends in procuring new subscribers, we will send specimen copies to those that they intend to call upon, if they will send us their names and addresses. It will take but a little time to get parties to subscribe when they see our journal. There are thousands of bee-keepers all over the country who take no bee journal, and consequently are uninformed concerning scientific bee-keeping. These should all be solicited to take THE AMERICAN BEE JOURNAL, and the thousands who now read and prize the JOURNAL can easily reach them. Will they not do it? Every one who reads this, is specially solicited to act as an agent, and present the claims of THE AMERICAN BEE JOURNAL. We feel assured that they will do it. A few hours time from each, devoted to the interests of THE JOURNAL will add thousands to our list.

CORRECTION.—In noticing the business of C. O. Perrine, of Chicago, in our last issue, it was stated that he had handled $30,000 worth of honey the past year. The facts are he has sold of Maple syrup and honey—the two specialties he deals in—the past year about $150,000 worth. Where the $30,000 comes in—which is the best part of it—he has that much now clear after paying all his fire losses, dollar for dollar, and every dollar he owes.

What seems queer to us is that if he is selling bogus honey, how he can double and treble his trade every year, and extend it all over the United States, north, south, east and west.

We noticed that he was getting a very large share of his honey from California, and was making arrangements for a very heavy supply from there this year, having an agent traveling there in his interest, as he has one in Canada buying Canada maple sugar for his maple syrup trade, of which he is calculating to make 100,000 gallons this year. He is the pioneer distributing agent of this choice sweet, as he so long was of honey.

☞ A letter from our worthy co-laborer, the Rev. W. F. Clarke, informs us that he is hard at work as the agricultural editor of *The Weekly Liberal*, a large and handsome paper published at Toronto, Ontario, and though his time has been largely occupied of late with duties connected with that paper, he hopes to be able soon to send us more articles for THE AMERICAN BEE JOURNAL.

THE wheat crop of Europe is almost an entire failure, and the price of wheat is rapidly advancing. The wheat in the "Great West" will again command good prices. While Great Britain and all Europe will be the sufferers, America will be greatly benefited. It may be we shall hear no more of hard times now, in the West at least.

ERRATA. — In C. F. Muth's article, June number, page 136, third line from the end of the article, for mixing, read "*feeding* a few barrels of coffee sugar."

We can supply no more full Vols. for this year, and hereafter shall commence all new subscriptions with the July No.

Back Volumes.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the ten volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum. Many of the numbers we have paid fifty cents for, to complete them. Those who wish them, should write us at once for price.

We have several single volumes (complete), which we will send postpaid for $2.00 each.

Several volumes, which lack only a single number of being complete, we will send postpaid for $1.00 each.

Vol. 1, we can supply in cloth boards, postpaid, for $1.25. Bound in paper covers, $1.00, postage 10 cents. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through all the numbers, and are from the pen of the Baron of Berlepsch.

☞ Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain these back volumes. Many of our best apiarians say they would not sell their back volumes of the AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginners and more advanced apiarians.

A CHOICE OF SIX VOLUMES FOR $5.—Having a few back volumes complete, and some lacking only one or two numbers each, we will give the purchaser the choice of six of such volumes for $5.00, until they are disposed of. As only a few can be supplied, those who wish to avail themselves of this offer should send for them *at once*.

☞ It will be a source of gratification to us if all those in arrears for THE AMERICAN BEE JOURNAL will settle the same as soon as possible. Our increasing circulation vastly increases our regular monthly expenses for paper and printing. "A word to the wise is sufficient."

Correspondence.

For the American Bee Journal.

Chips from Sweet Home.

It has been some time since you have received any chips from us, but our only excuse is "I've been very busy." Last fall I put in my cellar 100 hives and had 55 to start with this spring. I have now increased to 85—July 1.

When we had black bees, we seldom or never found two queens, (or better say Mother bees) in one hive; but since we have introduced the Italians it is quite a common occurrence to find the Mother and her unfertile daughter and occasionally two fertile Mother bees occupying one hive. We make good use of such extra Mothers by dividing.

Our Observation Hive is doing finely in the sitting room,—the bees passing to and from by an entrance through the wall. I wish no inquiries by mail how to make; will therefore here give a few general directions.

The size and shape will depend upon the frame you use. Make the bottom piece enough longer than the frame, so as to pass through the wall, and in this bore an entrance hole; have two upright pieces and nail them to the bottom piece, on the sides of the top ends nail two strips, rabbet out these pieces on both sides for glass to fit in, so that the glass will be 1¾ inches apart; also have ⅜ inches space at bottom, sides and top of frame. Mortise a place in each upright for the projecting ends of frames, lay a piece on the top so as to fit on the glass and end-pieces. It is best to bore a hole in the top piece, for feeding, etc. If we wish to observe the rearing of Mother cells we would put in a comb of brood in all stages, with all the adhering bees; then the rearing of queens may be seen, and if two or more should cut out at or near the same time, a royal combat may be seen—otherwise the first queen will destroy the others by cutting an opening in their sides and then sting them.

In mine I have seen all the operations of the once mysterious hive except swarming, and now I have a laying Mother in it, and they are getting very crowded and soon I expect to see the above. It is well to keep it darkened the first two or three days, and covered when cool.

Up to date we have had a very cold spring, except about 20 days, and during this warm weather there has been considerable rain. Bees have only stored enough for brood raising, but we have white clover still in bloom, basswood, 15 acres of buckwheat, and our full range, (Mississippi bottom) still to come.

To those buying Honey Slingers, I would say buy none but stationary cans, and have as little revolve as possible.

No amount of freezing will destroy the moth eggs, as we have frequently tested.

I have been using for years two sizes of Frames—the Thomas 12x15 and the Langstroth 8½x 16⅜, and find since having many combs to save from the moth that the former is destroyed the worst by worms.

I got a Universal Feeder made, 2 feet deep and 18 inches in diameter. It is made of heavy tin and copper bottomed; the top is perforated with small holes, 15 to the inch or 225 to the square inch. I find the holes are too large or too many, but by covering the inside with muslin it answers the purpose well for a stimulating feeder; i. e., I feed about ½ pound to each hive per day, when they are not gathering honey. I also use this can for melting beeswax as well as boiling the sugar I make into syrup for feeding. When I feed the bees I invert it over a washtub, so that if it leaks any it may be saved. I find it is the most economical feeder in time and feed, and prevents robbing; but a feeder for each hive tends to it.

It will be remembered by the readers of this journal that I made Dadant & Son a visit last season and spent 4 days in their apiary. Since then I have received several letters asking me about their honesty and reliability. I would say here for all, that I saw them putting up bees to send off, always being particular to see if they would fill the bill. Of their imported, as well as their home-raised Queens they keep a register on a small black-board attached to each hive. They cannot give all best Queens, or all crowded stocks. Those wishing an extra Queen or a full hive may depend upon getting such by enclosing an *extra* dollar. I have had Queens from them and find them to be pure, prolific, and of quiet dispositions. One I now have and am breeding from I think is as good a Mother as I ever had. The Queens I have raised from her are dark, such being the color of most of my best Queens. I have had a few light golden colored that were good; but generally the dark leather colored have given me the best satisfaction.

After over a year's trial we feel proud of our slates, some of which stood out on the hives all winter, and this spring the writing was very legible. They are made by cutting common school slates in pieces of 2½x3 inches and by boring a hole in the middle of one end; they are hung on the right hand side of the hive (facing it). In the right hand upper corner I put the year of Queen's birth, so that her age is readily told; in the left hand upper corner I put H. Q. (Hybrid Queen), or I. Q (Italian Queen), as the case may be; then

the condition of hive and date of the last opening. For example: June 2, O. K. or Y. Q. (Young Queen) or Q. out, (Queen out of cell when I don't see her) or Y. Q. eggs, etc. On the outside of slate I mark anything that requires attention; for instance, July 8, Q. cells, etc.

Yours for a sweet living,

D. D. PALMER.

Eliza, Mercer Co., Ill.

For the American Bee Journal.

California.

DEAR BEE JOURNAL: In my last I promised to tell the "bee men" something of Southern California. First, then, as to

CLIMATE.

I do not suppose that there is a better climate on earth than that of Southern California, especially that portion west of the mountains. Such is a large portion of Los Angelos county, it being a beautiful valley, about twenty miles wide and seventy-five miles long, with a slope of about twelve feet to the mile, from the mountains to the beach. This valley, being west of the mountains, is free from the bleak winds of the desert, and the cold winds from the north, with a regular sea breeze every day, rendering the climate more even than that of Spain, France or Italy; the mercury seldom going above eighty degrees, and rarely below forty degrees. Near the coast it is cooler; but as you approach the mountains, the climate grows warmer, at the rate of about one degree per mile. Near the coast it is too damp and cool for consumptives—but on the west side of the mountain, at an altitude of 1,500 or 2,000 feet, you are above the fogs and dampness—and the climate is *just splendid*. There is never any frost at this altitude, on the west side of the mountains—and here is where the bees do so well. In point of

SOIL,

this valley is equal to any portion of the United States. The soil is made by deposits from the mountains, and is inexhaustible. There is, however, only a small portion of it that is susceptible of cultivation without irrigation; this is supplied by water from the mountains, and by artesian wells. These can be had at a cost ranging from $125 to $500. This seems almost incredible to an eastern man, but such is the fact. Many poor farmers, just starting, have their artesian wells, giving an abundant flow, for irrigating their quarter section of land. As to

FRUIT,

there is no end to it here. Almost every variety of semi-tropical fruits grows to perfection here; and the flavor of all kinds of fruits is especially excellent, on the high "mesa" lands. Peaches are never a failure; apricots, nectarines, plums, pears, etc., etc., in endless varieties, strawberries the year round, while tomato vines bear continuously, for five or six years. Vegetables without end, and the grape to perfection. Raisins made by the ton, simply by pulling the grapes from the vine and spreading them on the ground to dry.

This valley land is especially adapted to the cultivation and growth of the Alfalfa, or Chili clover, which will feed from four to six cows per acre, the year round, producing a large yield of good milk and butter.

BEES

are also kept in the valley; but the quality of honey is very indifferent, and consequently it is not considered very profitable. Yet bees will increase equally as fast in the valley as on the mountains. The most desirable locality for bees is directly up the side of the mountains, about one mile from the valley, and at an altitude of 1,500 feet, with plenty of sage, sumach, etc., about you, on the mountains. The bees go to the valley first in the spring, and as the season advances, they ascend the mountains, thereby securing a perpetual pasturage.

Bees, *they say*, have not done well this spring and summer, owing to a frost that fell in April. I took charge of

MY APIARY

on the 5th of May. The bees were all in box hives. I proceeded at once to transfer, which I accomplished in about four weeks; took about 5,000 lbs. in transferring; have all of my hives full of comb, and have taken with the extractor, up to the present date, (July 1st) about 4,800 lbs. The season is now in full blast, and will continue so for six or eight weeks longer. I have no fears but I will reach 30,000 lbs. from the 150 hives I started with, beside an increase—after "honey for market" is out—of about 300 per cent.

And now, Mr. Editor and brethren, let me say to you all that I have at last found the "place for bees," and I shall not neglect to improve *my* opportunity. So you had better "look well to *your* laurels."

There are other places here, not yet occupied, which would make good bee ranches. But the better plan is to buy out a "squatter," and bring with you about 100 stands of bees to start with. The bees would cost about $1,000, and the 160 acres—with twenty to forty acres tillable land, and a small shanty—about $500. If any "Bee man" wants such a location, etc., I think I could secure it for him for that amount.

There are many points which I would like to talk upon, but must wait till next time, and still remain,

J. W. SALLIE.

Anaheim, July 1st, '75.

From the Practical Farmer.

Prevention of Swarming.

To prevent hives from swarming, several methods have been advocated.

1. Many persons, supposing that bees swarm only for want of room, aim to prevent it by furnishing abundance of room, either in the main hive or in the surplus honey receptacles. But every experienced bee keeper is aware that stocks will often swarm without occupying the surplus storage room—or after they have partially filled it with comb; and in Mexico, where bees are often kept in flour barrels, I have seen them swarm when the barrels were not near filled with comb. I have repeatedly had swarms from old gums, holding over two bushels, and a few days ago, a swarm issued from a stock of Italian bees, to which over two bushels of storage room for surplus honey had been given—two hives being placed over the old stock, in the method described in plate v., figure 16, of the third edition of my book. The bees had filled the second story, and were busily at work in the third. It is very evident, therefore, that ample storage room cannot always be relied on for preventing swarming.

2. Many devices have been contrived for preventing swarming, by contracting the entrance to the hive, so as to prevent the queen from leaving, while free egress is allowed the workers. At one time I looked upon what I called my non-swarmer, with considerable favor; but longer experience has convinced me that it will not answer. It is true that if the entrance is made exactly five thirty-seconds of an inch high, the queen cannot get out, the bees, after swarming, will return to the hive. But such accuracy of adjustment is difficult to obtain, and the bees are seldom reconciled to the *squeezing* necessary to enter the hive, by which many of them have their pollen rubbed off. The whole colony is also thrown into great excitement every day, when the drones attempt to take their flight; and the entrance must be enlarged daily, early in the morning, or late in the afternoon, to allow the bees to carry out dead drones and imperfect brood, which they have been dragging for hours about the contracted passage.

3. Clipping the wings of the queen to prevent swarming, is an old device, but one which with the ordinary arrangement of hives can never be relied on. A queen without wings feels perfectly competent to accompany the swarm, and will hop off the alighting board and in most cases be lost in the grass. The bees return to the parent stock, to await the development of the young queens, and will then swarm, often three or four times.

4. From some experiments which I have tried this season, I think I can effectually prevent swarming, without in the least interfering with the natural instincts of the bees.

The hives in which swarming is to be prevented should all have their alighting boards resting on a large board placed on the ground, and the wings of the queens should be clipped in a way described on page 223 of my book; so that if she leaves she may easily climb back to the hive, when attracted by the loud hum of her returning colony. She will not be disposed to leave often; and the bees will probably aid her in destroying the maturing queens. Of this, however, I shall be more certain after an enlarged course of observations. If the bees should prevent the destruction of the young queens, and the old one should be killed, then the whole plan will fail. Of this, however, I have little fear. L. L. LANGSTROTH.

Oxford, Ohio.

For the American Bee Journal.

"Coe's Apiary."

In an article by J. P. Moore, page 142, he says: "There are some things in Mr. Coe's article, page 112, that I think would be likely to mislead those who have had no experience with the apiary house." He also says: "I have used a house similar to Mr. Coe's for the past two seasons."

Now, I believe Mr. Moore is sincere in what he says, but having never seen one of my apiaries, or even had a description of one, may he not judge me unfairly? He uses a Faulkner house, and that is the standard by which he judges mine. He is greatly mistaken in saying it is similar to mine.

I spent two days with Mr. Faulkner last August, and carefully examined his apiary houses, (he had them in his yard at home) but failed to find a single feature either in construction or management similar to mine. As to the value of Mr. Faulkner's house, I can only say that Mr. Moore himself likes it very much—"would not be without it."

Mr. Winder, of Cincinnati, on whom I called on my way to see Mr. Faulkner, said he had seen it and liked it very much; and others using the house gave like testimony. When I was there Mr. Faulkner had on hand about ten tons of as fine box honey as I ever saw in any market, not excepting Harbison's or Capt. Hetherington's. He had been offered for it by a merchant of Memphis, Tenn., 29 cents per pound, but was holding it at 35.

As to the value of my invention I have nothing to add to what I said in the May number of the JOURNAL, until the bee keepers of the country give their verdict upon it. I am now engaged in building "Trial Apiaries" in several States and

hope to hear from eight or ten in operation this season.

Every earnest, progressive bee keeper in the country is doing his utmost to forward the best interests of the fraternity. "*Progress*" is the watchword. The man (or the woman) who shall assist in devising means for saving the millions of dollars worth of honey now annually wasted, will be as deserving of grateful remembrance, as he who causes two blades of grass to grow where but one had grown before. J. S. COE.

Montclair, N. J.

For the American Bee Journal.

Italian Bee Chromos.

I see in the last number of the AMERICAN BEE JOURNAL that Count Visconti di Saliceto, manager of the *Journal l'Apicoltore* and secretary of the Central Society of Bee Keepers of Italy, asks me to testify concerning the value of the chromos now issued by this society.

In reply I will say that about two years ago, (the work of drawing, painting, etc., has taken about two years) after receiving a specimen plate of their chromos I was so well pleased with it that my first thought was to introduce them among the American bee keepers. Consequently, I wrote to Mr. Clarke, then proprietor of the AMERICAN BEE JOURNAL, offering him my gratuitous services to negotiate with the Milanese Society, so as to have these chromos given three or more every year as premiums for the JOURNAL. Mr. Clarke accepted my services, but as the Milanese Society had very little profit, if any, on these chromos, the difference between the retail and the wholesale price was so small that it was impossible to give them as premiums, so, to my sorrow, this scheme was abandoned.

These chromos consist in a frontispiece and thirty plates, on copper plate paper, 12x8 inches.

The first plate represents a comb with three kinds of cells.

The second, eggs and grubs.

Third, pupa.

Fourth, queen.

Fifth, worker.

Sixth, drone.

Seventh, head of a queen.

Eighth, head of a worker.

Ninth, head of a drone.

Tenth, composite and small eggs.

Eleventh, wing.

Twelfth, legs.

Thirteenth, mouth.

Fourteenth, digestive organs.

Fifteenth, pulsatory vessel and nervous system.

Sixteenth, air bag, trachea and stigma.

Seventeenth, sting and its appendages, etc.

Eighteenth, organ of the wax.

Nineteenth, salivary glands.

Twentieth, sting of the queen, with ovaries and spermatheca of an impregnated queen.

Twenty-first, genital organs of a virgin queen.

Twenty-second, genital organs of an impregnated queen.

Twenty-third, genital organs of a worker, and of a laying worker.

Twenty-fourth, genital organs of an early emerged drone.

Twenty-fifth, genital organs of an adult drone.

Twenty-sixth, penis upturned after the copulation.

Twenty-seventh, spermatozoid.

Twenty-eighth, transversal section of a queen, showing all the organs in their respective places.

Twenty-ninth, braula cœca, (bee louse).

Thirtieth, moth and its larvæ.

These chromos, made on the microscopic works of Count Gaetano Barbo, works which obtained several premiums in the bee keepers' expositions in France, Germany, Austria and Italy, have been drawn and painted by Mr. Elericy, chosen on account of his ability, by the society of Milan.

I have already received 18 of these plates; the six first sent were lost on their way here: possibly some postmaster's employee has liked them too much to let them arrive here. The twelve which were sent afterwards arrived with a lot of queens, after having been spoiled by salt water; the six following arrived all right.

I have written for another collection, and I wait for it for the work is just completed. The merit of these chromos has not deceived my expectations. All the bee keepers who called here since a few months were anxious to get a collection of them. The price in Italy is 20 francs in gold. It is low if we compare it with their entomological, microscopical and artistical value. But the difficulty is: how to receive them here safely? We cannot get them through the post-office—some might be lost on their way, and the rest may be broken at the corners so as to have their neatness greatly damaged.

A few copies sent by express would cost too much. It would be quite different if we would raise a club. Besides, if the number ordered was one hundred or more we could afford to have a drawing made expressly for us, and the reading on the plates in English language instead of Italian, as it is now.

If some bee keepers want to get these chromos, we can make a list and order them as soon as we have a sufficient number of names.

The price delivered here will be about $6. Send $1 in advance when ordering; this dollar will be refunded if we cannot

meet with sufficient number to pay express charges and duties.

We do not intend to make money with these chromos, but to spread the knowledge of the organs of our interesting insect among the bee keepers.

CH. DADANT.

Hamilton, Ill.

Distance of Bee Pasturage.

Some credit the bees with having an instinct that causes them to fly some distance from the hive before alighting upon flowers in search of honey. The economy of this is in the saving of time that might otherwise be wasted upon neighboring blossoms that had previously been despoiled of their sweets. This may generally be the case, though I have seen them gathering from pasturage a few yards distant from the apiary, and the close proximity of pasturage does not seem to make any particular difference if it is extensive. And, when artificial pasturage must be supplied, it may be an eighth or a fourth of a mile distant without inconveniencing the bees. They have very compact bodies and strong, though delicate looking wings, which render them capable of making long flights in a short space of time, with very little fatigue.

Since the month of May, the bees have been delighting themselves among the fragrant blossoms of the white clover, or "white man's foot," as the Indians call it, for the reason that it seemed to spring up wherever the white man trod the newly-discovered world. This is a valuable forage plant, and belongs to the Trifolium, or clover family, the plants of which are distinguished by compound leaves composed of three leaflets, which are properly called trifoliate leaves. Trifolium refens is universally known as white clover, and in some localities has been styled Dutch clover. It is of especial value to the farmer-bee-keeper, as it affords excellent pasturage for horses and cattle, is also useful in making exhausted land productive, and produces a very light-colored and delicious honey, from May until September.

Trifolium prantense, or red clover, is in some respects superior to the white species, and it is supposed to secrete much more, if not better honey. This has not yet been made available, as the depth and narrowness of the blossom-tubes will not permit of their sweets being gathered by the honey-bees, and they are left to enrich the store of the humble-bees. It has been claimed that the Italian bee possesses a proboscis of sufficient length to gather the honey from red clover blossoms, but this is not generally believed, as no conclusive testimony has yet been given to prove the theory. There has been considerable said about shortening the sting and lengthening the proboscis of the honey-bee by careful and select breeding, and, when it is done, we may expect to place the red clover honey on our tables.

The idea of producing a variety of clover that should combine the best qualities of both the red and white clover, was first conceived in this country, but experiments here resulted in failure. A successful attempt was made in the Province of Alsike, in Sweeden, a number of years ago. It has been claimed by some that it is a distinct variety, while others believe it to be a cross between the red and white clovers, as it possesses some of the qualities of both. On its introduction here, it was received with favor, and has done well in the northern states. It does best in a cool, moist climate, and loamy soil. The many pinkish white blossoms which it bears on each stalk resemble those produced by the white clover, thereby placing its honey within the reach of the honey-bee. Its haying qualities are equal, if not superior to the red clover, and it attains about the same height. In fact, one gentleman has asserted that it has grown to the extreme height of seven feet, though it seldom surpasses 2 or 3 feet in even favorable localities. Its chief recommendation for the northern latitudes is the fact that it is capable of enduring severe winter weather.—*Ella, in Chicago Tribune.*

Translated by Ch. Dadant.

Our Foreign Bee Notes.

NOTES ON BEE CULTURE IN FRANCE.

(CONTINUED.)

Wax candles were first manufactured with linen dipped in hot wax and rolled together. They were afterwards manufactured by hand by rolling a wick on softened wax on a walnut table. Progress, however, soon taught the present way of manufacturing them.

The candles used in great solemnities were richly decorated with magnificent ornaments. Talented painters adorned them with mottoes, with pious sayings, or with the escutcheon of the donor. This custom of ornamenting wax candles had created a special art.

They also ornamented with the family shield the candles that were carried at the funerals of noble defunct persons. We have found many instances of this in our own country.

In all religious ceremonies large quantities of wax were consumed, and the incumbents neglected nothing to procure it. Among the annual revenues of the Bishop of Puy, were 20 pounds of wax. In 1330 the farmers of the domain of Beauregard, had to pay each two pounds of wax annually. In 1632 John de Frettar, sexton of the monastery of Chaise

Dieu, stipulated for an annual rent of six hundred pounds of wax, to be of good merchantable quality, that the other party was to bring to his house yearly on St. John's day.

Another deed, dated July 27, 1668, shows that the monks of the same monastery rented to John Marel for six years the revenues of the work room for the payment of 120 pounds (about $24) to be paid in wax candles of first quality at the rate of 18 sols (cents) per lb.

It was about this time that, for reasons of economy, they introduced in the churches the false candles covered with fine wax.

For a long time wax candles had been exclusively preserved for the use of the church. Tallow candles, even, were quite a luxury. The Duchess of Burgundy never used any others, and in a letter, written to her son in 1422 she complained of their high price. Yet these candles were only worth 4 sols 2 deniers (4⅛ cents). The rich families employed oil and did not even leave to the poor the right to use the pine twigs. But comfort and luxury were some day to invade France.

After the Venetians had taught us the speedy bleaching of wax, rich people preferred it to tallow. La Bruyere in his "Caracteres" speaks strongly against this luxury. "Our ancestors," said he, "used not the wax candles, they were for the altar and the Louvre."

Soon the higher classes were no longer the sole consumers of wax candles. This habit soon became customary among the well-to-do people of the small cities. Traveling candle-makers made it a business to melt the old wax and make it into candles, so that each person could have his or her own candles made right at home.

The wax candle died on the day that Chevreuil published his beautiful works on fat substances; when wax and tallow were replaced by stearine, in 1839.

Wax was also employed for ointments, or plasters, of which our grandmothers had the specialty.

Diversely colored wax was in use in chanceries in the middle ages, and our national archives are full of deeds covered with seals printed in wax.

The Romans had employed wax for the pictures of those who were in curule magistracy. In the seventeenth century the fashion was again turned towards this. Louis the Fourteenth had his picture made in wax by the famous Benoit.

Our readers will forgive us if we neglect a number of ways of employing wax. We believe that enough has been said to show its importance.

Although honey has to withstand the competition of sugar, and wax that of stearine, still these products are both well appreciated.

Honey is still employed as saccharine matter in a host of pharmaceutic preparations. It is utilized in the preparation of the gingerbread of Rheims. It enters in the composition of metheglin and of several alcoholic liquors. Lastly it has been advantageously employed in place of barley in the manufacture of beer.

Wax is used in many industries. The joiners and cabinet makers, the painters and the sculptors use large quantities of it. It is also employed in the preparation of some kinds of leather.

Therefore we can see that if bee culture was useful for our ancestors it should not be abandoned now-a-days.

French bee keepers now sell thirteen million of francs of products. But the number of hives could be much larger than it is now. We should therefore encourage the culture of the bee and stimulate it by spreading the best methods of culture.

E. FAURE.

For the American Bee Journal.

The Attic as an Apiary.

I noticed in the AMERICAN BEE JOURNAL, for June, the inquiries of S., Madison, Wis., with the remarks made in answer. Some years since, residing in a hired house with two windows in each end of the attic, four in all, with little use for the attic, I removed the windows and placed a board in each window, darkening the room. I then placed a hive against the board in each window, so that the bees could alight upon the window stool of each window, and enter the hive. The entrance was directly into the hive; each hive had surplus boxes of say 5 lbs. capacity each box—an aggregate capacity of 100 lbs., or more. (It might be constructed to reach 200 lbs. each hive.) I placed a first swarm in each of the four hives. They gave me as good returns as any of my new swarms in the apiary. I only had the opportunity of the trial one season. They filled their hives well for winter, and I should think averaged 40 to 50 lbs. of surplus each.

I think such an attic would make a very good bee house for as many colonies as can be thus accommodated and every farmer might have bees in his attic to advantage, with little trouble. But to have it in a neat surplus box for use is better than to be cut off from the comb when wanted.

What would be the actual expense per pound, of honey, when one colony gives 100 lbs. per annum for ten years, selling at 20 cts. per pound. 1000 lbs. costs $5.00, the price of one colony of bees. That amounts to 5 mills, one-half of one cent per pound. We think that is not very costly honey. Even if they average but

50 lbs. per annum the cost would be but one cent per pound.

I have thought from my experiments thus far that the issue of a swarm from an old colony at the time when the best part of the honey season commences, cuts off one-half to three-fourths of the surplus. If so then a swarm from my colony that gives me 100 lbs. of surplus will cost me from 50 to 75 lbs. of surplus. At 20 cts. per pound, this would be $10.00 to $15.00 per swarm. In estimating the number of colonies when giving annual swarms, why should we stop at nine years? Why not go on to twenty years? then they would amount 1,984,288 colonies, bringing in $9,921,440,00. What an income. But one difficulty meets us at an early start on the road. One field will not long give honey for one colony, another will starve at 5, another at 10, another 30, another 50, another 100. Starvation would overtake them in 3, 4, 6, 7, 8 years,—and then they would die off.

JASPER HAZEN.

Woodstock, Vermont.

The Senses of Bees.

It is rather astonishing that any naturalist should doubt the existence of any of the five senses in bees, which they and many other creatures possess. Francis Huber himself rather doubted that bees possess the sense of hearing. I knew a minister of the gospel and student of nature, who maintained that bees are blind. An English baronet and M. P., has recently delivered a very good lecture to the members of a natural history society on the habits of bees and ants. This lecture has been pretty widely published, and contains the results of some very interesting experiments which he has made to test the truth of what some writers have advanced touching the capacities and senses of bees. So far as his experiments go, although they are not conclusive (and this he admits), bees do not deserve the good character which is so often given them. They lack affection for one another, and their devotion to their queen has been over-colored. They are minus sympathy for suffering companions; have no appreciation of colors, no powers of communicating ideas to each other; and some are more stupid than the rest. These are a few of the convictions obtained by the lecturer from the experiments he made last summer. It is to be hoped that he will repeat his experiments next season, and institute others of a like nature, for bees have many traits of character not yet explained or understood; and there are many secrets in their history difficult to penetrate.

In this letter I propose to take a mere glance at the five senses of the bee—viz., sight, touch, hearing, taste and smelling.

1. *Sight.*—That bees can see distant objects is proved by the fact that they often fly in a straight line to them. That they can see near objects may be observed in their going in and out of their hives, and winding their way through a thicket of trees without touching a twig or a leaf. If bees be taken into a room during the day they fly to the light; and if taken into a dark room and shaken on the floor they will travel towards a lighted candle within eyesight of them. I once saw half of a large swarm or stock of bees run along the ground many yards after the moon. A cartload of hives were placed in my garden one night. One hive was on the point of suffocation; it was placed on the ground and its doors opened. Unfortunately the moon was in front of the hive, and as the bees gushed out of the hive, in a continual stream, they all ran in the direction of the moon. As soon as I discovered the mistake I turned the back of the hive to the moon, and stopped the numerous pilgrims on their march, by placing a large door between them and the attractive satellite. The hive was placed in their midst, the noise of which brought them all home.

If two bees be carried in a room, and one of them finds a way of escape more readily than the other, we should charitably conclude that the escape is owing more to an accident of good luck than to an evidence of greater intelligence.

2. *Touch.*—What sense but touch enables bees in the darkness of their hives and the darkness of night to lay the foundations of their combs at proper distances from one another, to erect cells and combs of exquisite form and beauty with the smallest possible amount of wax? By sense of touch, eggs are set and tended, food is mixed and administered to young bees in portions suited to their age and wants. Is it not by their sense of touch that bees often recognize their queen, and convey ideas or impressions to one another? Is it by sound or touch that a whole swarm is made aware, all but instantaneously, its queen is lost? And while the bees are wild with grief, uttering loud lamentations, they can be as speedily hushed into perfect quiet and contentment by the restoration of their lost queen.

3. *Hearing.*—The lecturer did "not think that bees possessed any powers of hearing. He had shouted, screamed, played on the fiddle, and made other noises, but they took no notice whatever." Bees can both make and hear sounds. They have a language well understood by themselves. In times of activity they are seldom dumb. A single bee can give a note of alarm or a cry of pain, that affects the whole community. With the point of a penknife I once caused a bee to utter a cry of distress, which instantly produced the responsive hush of disturbance

throughout the whole swarm. In a hive of bees there may be heard the sounds of grief, of joy, of peace, of trouble, of starvation and of suffocation. It is the noise of bees in swarming that keeps them within ear-shot of one another; and this noise never wholly subsides till all have clustered in a mass, like a bunch of grapes, on the branch of a tree. If bees were deaf, sounds would be of no avail; but many different instances and occasions could be named, in which sound is a very useful instrument in the economy of a hive of bees.

Bees will follow the sound of their own hive in a dark place, and in daylight, as hounds follow a fox. It were an easy matter to make bees on the floor of a house at night follow the noise of a strong hive from room to room, over the whole house, and even from one end of a garden to the other end.

4. *Taste.*—The sense of taste in bees does not admit of doubt, though we know very little about it. The fact that bees resort to the water of dunghills and the secretions of an insect, does not prove that their sense of taste is imperfect. The saline matter of manure is useful for breeding purposes. If the syrup of sugar be made too weak, bees will not take it. If six dishes of honey be placed on a garden wall beside six of good syrup, the bees take all the honey first, afterwards the syrup. If honey be given to them in a warm state, they generally overload themselves, and cannot fly for some time.

5. *Smell.*—This sense in bees is wonderfully acute. They can smell the nectar of flowers at some distance and go direct to it. We have seen bees on the way to the fields halt over the mouth of an uncorked bottle of sirup in our hands, and drop on to it in an instant. We have seen bees dance around the chimney top, and drop down the chimney to get the honey in the room below, which they had smelled. We have seen honey placed in a dark kind of cellar behind a room 10 yards wide; bees scented this honey, went in by the door, flew across the room, and crawled on the floor of the dark cellar till they reached the honey. The sense of smell in bees is so keen that they can detect the presence of strange bees in their hives, and are greatly offended at the breath and sweat of human beings.

Bees have good memories as well as acute senses. If they be fed one day from a plate placed in a particular spot of a garden they will go back next day or next week to see if any more can be obtained. If weather keeps them at home for weeks they remember the place, and go to it as soon as they leave their hives.

We think that bees are very clever little creatures, and that they have the power of conveying ideas to one another. If one or two robber bees find access to the honey of a weak hive or stock, the community to which the robbers belong generally gets all the honey in a very short time. This is almost invariably the case; one hive getting the whole of the booty before the other hives are aware that booty can be had. If bees have no powers of conveying ideas to their own community, how does it happen that one hive gets all and the rest none? We have frequently resorted (on a larger scale) to the same kinds of experiment that the baronet adopted, but the results and the conclusions were quite the reverse of his. Again: When one hive is robbing another there is, generally speaking, no resistance offered, and the robbers never cease till they have carried every particle of honey to their own hive. If the undefended hive be removed from its stand before all its treasures are gone, and a strong hive be placed where it stood, the first robbers that come now find a resistance too great for them, and the whole of the fraternity of the robbing community are speedily made aware that "their game is up."

In preparation for swarming is there no community of ideas? no internal arrangements made? Twenty or thirty thousand bees are about to emigrate, and leave twenty thousand behind in the mother hive; those that go have to take rations to last three days, and to be ready by twelve o'clock! Is all this mere blind instinct? The question cannot be answered in the affirmative by

A. PETTIGREW.

For the American Bee Journal.

Adulteration of Honey.

Reader, has it not occurred to you that this subject has been already discussed too much? and that the less it is agitated, the better for the bee-keeper? As only one side of this question has been presented, perhaps it will do no harm to say something on the other side.

It seems to me that the parties who make the handling of honey a *specialty*, know better what their patrons desire than beekeepers, and that there is not the least danger of their "cutting their own throats," by selling a mixture that will *ruin their business*. It seems, also, that it is for their interest to sell an article that will give the best possible satisfaction, and that it is about time for honey raisers to give to dealers the credit of a little common sense. Some have *glucose* on the brain, King especially. From a careful investigation, I am satisfied that the Chicago dealers use no glucose in the honey they sell—and that it is not for their interest to use it. There are at least two objections to its use—one is, it *separates* by long standing, from the honey, and the other is, it will *ferment* in hot weather.

I have often seen Perrine's honey on sale on this (Fox) river, and elsewhere, and I know that it gives first-class satisfaction,—far better than the *crude* honey sold by the honey raisers in this or any other county. Whether Perrine mixes anything with his honey or not, I cannot say, but if he does, it is something that improves rather than injures it. That is, his honey is *milder in flavor*, and therefore better relished by the masses. Crude honey, as gathered by the bees, is quite apt to candy — *but does not always* — and when it is in that state, consumers generally dislike it. Besides, it is impossible to convince many that *pure* honey will change to *sugar*. As a rule, Perrine's honey does not solidify, if used within a certain period, and for this reason, consumers like it better, and so do the merchants that handle it. Now, no one can properly censure a dealer who caters to the wishes of his patrons, provided he uses nothing that injures their health. But the discussion of this subject in the strain of the past few months, is creating, and has created considerable prejudice against *liquid* honey, and the producer is the chief sufferer.

As a consequence of this prejudice, the dealer can buy all the liquid honey he wants, at lower prices than before this discussion commenced. But suppose the dealer cannot sell liquid honey, then the producer must peddle it in small lots among his friends and neighbors—those who have confidence in his honesty. In a short time he will find his reputation for honest dealing sadly injured, for crude honey will, generally, candy more or less, and then his best friends will claim that he has *sugared* it! For there is no man on *this* earth that can sell crude honey and escape from this charge—unless we except H. A. King! the party who inaugurated this discussion. Why Mr. King made a *hobby* of this topic at the last National Bee Convention is not apparent, except to the few who have watched his course for the past few years. If we mistake not, it was for the sole purpose of bringing himself once more into *notoriety* and the recurring of a vast amount of advertising, *free of expense*. He knew this would be the result, for the Press, generally, will publish a pretended fraud, or what is novel or ridiculous.

There might have been another object, and that was to injure the business of Mr. Perrine, who has worked diligently for a reputation for the goods he handles, and Mrs. Spaids, who was once the wife of Mr. Perrine, might be at the *bottom* of it. It is well known that she is jealous of Mr. Perrine's prosperity, and that she would gladly use any means, no matter how contemptible, to break him down, and, at the same time, build up the reputation of the honey market of New York City.

St. Charles, Ill. M. M. BALDRIDGE.

For the American Bee Journal.

How About California?

The following letter from a friend who has lately gone to California, I submit to the readers of THE AMERICAN BEE JOURNAL, as they ought to canvass the subject well before attempting a removal to such a distance as the Pacific slope. As I know many bee keepers are contemplating such emigration, I commend this letter to their careful consideration.

H. NESBIT, Cynthiana, Ky.

SAN DIEGO, CAL., June 24, '75.

H. NESBIT, ESQ. Dear Sir: Yours of the 14th at hand, and contents noted. I came here from Kansas in May, to go to bee-keeping, but found I was four months too late to do anything this year, as bees swarm here in March and April, and from that time to September 1st, are making box honey, and but few are for sale, except from October to January.

They had a hard frost here in April, which stopped swarming, and cut the honey crop very short.

Italian queen-raising might pay, but I think it doubtful, as one-fourth are now Italians. You could not find a location, in my judgment, out of reach of blacks or hybrids, as the mountains have many wild bees in them and the bee-men are already located all over the honey region.

Bee-men complain of losing one-third of their queens in fertilizing this year. Do not think that queens will be sold very profitably. This country wants to be seen to be appreciated—it is not at all that fancy paints it. I am very much disappointed and do not think I shall stay, as I left my family East; and if I bring them, they will have to stay here in San Diego, while I go alone up among the mountains, twenty-five to forty miles to the bee-range.

There are no *thriving villages* within a hundred miles from here. This is the *only* village for one hundred miles in *any* direction, and this is as *dead* as can be—always like Sunday in the streets.

Outside of this town there are no churches, and no society you or your daughter would want. Little houses, 15x20 or less, three to six miles apart, with one or two *men* in each, constitute the population, and thus the country is dreary and uninviting. There will be plenty of bees and ranches for sale this fall. Bees in Harbison or Langstroth hives sell at about $10; in box-hives, $3 to $5. Harbison's average, for five years past, is 83 lbs. comb-honey—more than most get. This year they will not get half that. They do not know what *extracted* honey is here. I brought two extractors with me, but as *strained* honey is only five to six cents per pound, they will not give me any work extracting.

If you are determined to come, my advice is, stop at Los Angelos, and go ninety

miles south of the railroad toward San Barnardino.

Land there, good for fruit, etc., is high; but there you can raise something that way, by irrigating, while in this country you can't raise anything but *cactuses* one year in five.

Harbison gives his men $20 a month, the first year; $40 per month, the second year, and an interest the third year. Do not know the interest.

You might buy 100 hives, bees, and ranch, with a shanty, worth $50, for $2,000. I think no one ought to come with less than $3,000, gold, for the first year's work. You might obtain employment—I can't, and dozens of others of us are here doing nothing; cant't get work for our board at anything—though I profess to understand the bee business.

I think this whole business overdrawn. Because last year was a splendid success, they thought to make their fortunes; but this year most are losing money.

G. F. M.

For the American Bee Journal.

What has Become of Gallup?

As I see a good many inquiries as to Gallup's whereabouts, let me give the readers of the AMERICAN BEE JOURNAL some information regarding him. He has left the bee business, and has received the title of "hydropathist." He is performing some remarkable cures, having treated over thirty cases of fever this spring, without the loss of one, and says he never expects to lose any.

I have charge of his bees and will say, for the benefit of your readers, that one of his large twin hives threw off a large swarm, on the 20th of May, full three weeks ahead of any other bees in this vicinity, showing the advantage of giving a queen a chance of spreading herself. He has fifteen of these large hives nearly all remarkably full of bees. Swarming commenced on the 16th of June, but cold rains set in and there was no more swarming Bees do not gather enough to eat now.

I am very much pleased to read the articles on wintering from so many bee keepers. We get much information by exchanging views. I put seventy-two colonies in my cellar, and, after remaining there one hundred and forty days, I took out seventy-two colonies, in good order, and have them yet. I left three of my strongest swarms on their summer stands, covered with quilts and surrounded with sawdust. They are very weak. I will give my plan for wintering, in September or October, as I think it is safe for Northern countries.

SOMETHING SINGULAR.

I had a colony that had been queenless twenty-four days. I cut some brood out of a honey box, and left it on the top of a hive; three days after, I found a queen cell in my queenless colony, with larvæ in it. They sealed it, but I gave them a queen before it hatched. Question: Did they transport the larvæ?

Mr. Gallup received some samples of artificial honeycomb, from some unknown person, which he gave to me to test. I have inserted it in a hive, but as the bees are not making comb now I cannot report. It is a very ingenious piece of work, and promises to be very valuable.

J. W. LINDLEY.

Mitchell, Iowa, June 19, 1875.

For the American Bee Journal.

How a Beginner Succeeds.

My wife subscribed for the AMERICAN BEE JOURNAL about one year ago. I have carefully read each number, as they were received, and have become considerably interested in bee culture. I have constructed eight hives with frames, and am now assisting my wife to get them properly stocked with bees and straight combs. I am greatly delighted with the ease with which bees can be handled when the operator follows the JOURNAL'S instructions, and am astonished to see so much ignorance exist with the common people in this vicinity on the subject of bee culture. I think that time will effect a great change in the minds of the people as regards the profits of bee culture, for we certainly have abundant resources for honey in this section. Bees winter well here on their summer stands, and commence gathering pollen from flowers in February and March. We have trees and plants flowering considerably all through the growing season. Bees are kept by quite a number of the citizens, and generally to little profit, just for want of knowledge such as the AMERICAN BEE JOURNAL would impart if they would subscribe for and read it.

I will give you the names of some of our honey-yielding trees and plants.

Of trees we have poplar, black locust, honey locust, black gum, yellow wood, white thorn, red, and black ham, sugar maple, red maple, wild grape, red, white, and slippery elm. We have also fruit trees of the common sorts of fruit.

Of plants we have white clover, red clover, wild black and raspberry, and a large number of plants, the names of which I do not know. We have a white flowering weed growing in low land, which grows about 4 feet high, and commences flowering about the end of summer and continues until frost. The bees gather honey rapidly from it.

T. E. SHELTON.

Russellville, Ky., June 23, 1875.

For the American Bee Journal.

Prospects, etc., in Tennessee.

I had hoped by this time to be able to report a large yield of honey, but the incessant rains for the last two weeks, and that too, in the very middle of one of our best honey seasons, have materially damaged my prospects in the way of honey.

I commenced in the spring with 66 stocks, quite a number of which were very much reduced on account of the cold weather in April, but I fell back on the doubling up plan again, and from the 66 I made about 42 strong colonies, saving all my queens. From the poplar bloom and honey dew, I took something more than 3,000 lbs., and from the sourwood up to the time the rains set in, I have taken enough to make up a total of 4,808 lbs., with enough in the hives to make at least 5,500 lbs., which I will take as soon as the rains cease. I worked mainly for honey this year, and have had but a small increase in bees, the total number of colonies now, including weak ones, being 107.

Although the rains have cut short the honey crop, I am happy to inform you that the prospect for a large yield of corn in this State was never better; and as our people have been living on half rations a long time, the thought of plenty and to spare will more than compensate me for my short crop of honey.

I have disposed of about 1,500 lbs. at 12½ cents, and now have 8 barrels on hand for sale.

We have two honey crops here. The poplar, which commences May 1st and ends about the 20th. Then the sourwood, which commences about the 25th of June and ends about the 20th of July. So you see if the rains should cease at this date I would yet get a considerable yield from the last mentioned bloom.

Hoping that all your bee keeping subscribers may be able to report large yields of honey, and wishing the old AMERICAN BEE JOURNAL much success, I remain as ever, Your Friend,

J. F. MONTGOMERY.

Lincoln, Tenn., July 14, 1875.

For the American Bee Journal.

Something About Queens.

In my opinion, a pure Italian queen, when impregnated by a pure drone, will produce three banded workers, and under favorable circumstances, will duplicate herself in her queen progeny. If any black blood is infused, the queen progeny will vary in color—some will be dark, some light, and some with rings. Some are short lived, living only a few weeks; some a few months; some one season, and some as long as four or five years, notwithstanding all were raised in the same hive, at the same time. The reason is obvious. Men and animals die old and young, so with bees. In regard to the color of queens, some are darker than others, but will duplicate themselves, if purely mated; some of the dark ones are very prolific, and just as good as any for honey, and increase of stocks. Parties who receive such queens from breeders should not be hasty in concluding they are cheated, for they may be pure. One thing is certain, a person may be easily deceived with dark ones; for a hybrid may be very much like the dark, pure ones. Impurity does not make the light colored or golden beauties, lighter colored. If so, the darker the dark ones, the purer they would be. A queen that has well-defined rings should never be bred from, as her progeny are likely to be impure. Take a queen to rear from that is uniform in color, from the throat to the tip of the abdomen, that produces workers with three well defined yellow bands, and they will generally produce good queens for shipment to customers, and will generally give satisfaction to them. Never take a young queen to rear from, as she may be but short lived. Always select such as I have described, and two years old, in order to secure a hardy, long-lived race of bees.

Much has been said and written upon this subject, and the doctors still differ, and will differ, for all time to come, probably. I simply give my experience. In this, as in everything else, I give no theory that I have not practiced and found good, and in the main, I believe I was right.

There is something else about queens that we all are interested in, (i. e.) introducing them. They can be introduced successfully ninety-nine times in a hundred, if strict attention is paid to certain rules and conditions. My success has been varied. I have lost a good many, and thereby paid for my schooling. A young queen, just emerged from the cell, can be given to any stock of bees at any time after taking away their queen, and they will not kill her. I have given them repeatedly to full stocks, and to nuclei, and never had one killed. The bees will not sting or enclose such a queen.

To introduce a fertile queen, depends much upon the time of the year, the condition of the stock, etc. For the benefit of the inexperienced, I will here state that in August, probably more queens are destroyed than at any other time in the year. Bees are then generally strong in numbers and stores, gathering but little, if any honey, and are so cross, and just in prime fighting order. When in that condition, go to them in a careless way, make no quick motions, though you find fight in them; blow in smoke, and look up

their queen and cage her; place the cage in among brood, where she can get to honey; close up the hive, let her remain twenty-four hours, then take the queen you want to introduce; slip her in the cage, after killing the one in it, let her remain in it some length of time, then, between sundown and dark, open the hive carefully, without jar, and with sweetened water, strongly scented with essence of peppermint, give them a good drenching —the queen too. Don't be afraid of drowning them; put the queen on the combs, close up the hive, and the job is done.

At other seasons they can be introduced without caging; let your stock be deprived of its queen for twenty-four hours, that all the bees may become acquainted with their situation, then take the queen, use the sweetened water and peppermint, as already stated, and they will receive the new queen. Caging is objectionable, a great many are lost in that way. I never cage, except when bees are cross, and gathering but little honey. Believing the inexperienced may be benefitted by my suggestions, I submit for your judgment as to whether it is worth a place in your valuable journal.

Melrose, Va. R. W. HARRISON.

For the American Bee Journal.

The Wonderful Instincts of the Honey Bee.

How great is the instinct of this industrious little insect will be seen by reading this article. Nothing pays better on one's farm, with so little trouble and expense, than the honey bee. Each hive will give a profit of $20 in honey sold at wholesale prices, at no cost for gathering, as bee pasture is free, and now is the time for them to accumulate the best. The white clover is beginning to bloom, and honey from this plant is far superior to that made from any other. While this variety of clover is in bloom, they will gather from two to ten pounds per day, depending upon the strength of the hive and the condition of the weather.

The honey is taken from the flowers by the bees, and on their way home it is passing through a churning process, and by the time they arrive home it is churned. The body of the bee is put together in three sections or bands, and underneath the two front bands on each side there is an outlet or small hole, where the butter oozes out after being churned. This butter is the pure white wax. It is received by other bees and placed in the comb or cell, and by the mouth of the bee it is pressed out to its proper thickness, and the balance remaining, which, to carry out our simile, we may call buttermilk, is thrown up by the bees into the cells, and the longer it remains there the sweeter it gets, as it extracts the sweetness or the virtue from the comb, bringing back the body of the sweets which it contained in its first gathering from the flowers; and, as before stated, the longer it remains in the comb the sweeter it gets—one pound in the comb three years old having as much medical virtue as three pounds one year old.

Besides the honey, there is the pollen, which is of more benefit to the bee than the honey. After it is deposited in the comb it is called bee-bread, as it is their principal living in the winter, and their young feed on it altogether, until they are ready to work.

Bees are very prolific, hatching out a brood every nine days, from early spring until late in the fall, from 2,000 to 5,000 each time; but as their life is short (only six weeks), during working season at least one-half of them die. When the hive becomes so full that it is uncomfortable for them to work, a certain proportion are driven out (which is called "swarming.").

The first hatching in the spring is from eggs laid late in the fall, which are protected in such a manner as not to allow them to hatch until new poilen is to be had. The last hatching is in the fall, and are those which are to live during the winter.

If you kill off the American Black Queen, and put in her place the Italian Yellow Queen, you will in six weeks have hybrids something larger than our own, with one yellow band around them, instead of three, as in their purity. This will prove the shortness of their lives. Hybrids do better for me than either in their purity.

There are but two classes of bees, male and female; but there are three sizes, the Queen, Drone and Worker. They would all be of one class if the cells were all made of one size and shape; their disparity in size makes the difference. The drone is like other male bees, only that it has no sting. The worker is a female, but a non-fertile bee or "neuter." This is accounted for by the cells being only three-quarters of an inch long and three-sixteenths of an inch in diameter, while the fertile bee or queen is one and a quarter inch long and a quarter of an inch in diameter. If they were all queens there would be no out-door work, as the drones do nothing. The queen cells are always made on the outer edge of the comb, there being more room there to extend their length—the drones likewise—there being but one-quarter of an inch of space between the combs allowed for travel. The queen cells are but three and five in number, allowing one for each swarm; the rest are killed off.

The pollen is gathered in this wise: The back of the bee is covered with a fine wool or hair, and on entering the flowers the pollen sticks to it, and when necessary to release it, it is combed out. The bee has six legs, three on each side, and the middle one on either side has a comb on the under side, from the forked toe to the first joint. As this can reach only half way across the back, it is combed from both sides, and the pollen is taken from the comb by the two fore feet. It is then flattened by the two fore feet, and caught between the toes, and passed back to the thighs of the hind legs, each one receiving the same weight, as nearly as possible. The pollen is taken from the end of the petals of such flowers as the bee cannot enter while on the wing, the front feet being used for this purpose. The pollen is removed by putting the leg in the cell, when it is pushed off with the forked toe, and, stepping to one side, the other is cleaned in the same manner.

The drones are killed in the fall, the exact time depending upon the character of the winter we are to have, a fact which they surely know by instinct. If it is to be long and cold they are killed in the early part of September; if an open winter, not until the last of October. Last fall they were killed during the last of August and the early part of September; the previous fall, the first of November. I have carefully noticed this operation of the bees for the past seven years, and it has never failed.

A hive of bees will consume about fifteen pounds during the winter, or two and a half pounds per month. The weight of a swarm is from 3½ to 5 pounds. I have one of the best of my stock hanging to a patent beam scale, and can, therefore, tell the loss and gain as often as I choose.

We have nothing in the insect line which is more useful than the honey bee, and nothing more industrious, working early and late, and with economy, and on scientific principles. Their combs or cells are all six-sided. Owing to this shape, the cells of every other row are the only ones necessary to build, except the front and backs of the second ones, thus doing away with much labor; and there is nothing of any other shape which will hold more in the same number of square inches.

Truly, the Almighty has created all things in wisdom. WM. J. PYLE.

West Chester, Pa., June 2, 1875,

Now is the time to kill moth worms. Bee-keepers, up and at them! Slaughter every last one of them, and there will be no moth millers to cause trouble to weak colonies.

Read the article on Seasonable Hints.

A Stinging Subject.

My wife is very proud of our garden, and while gushing over it the other morning, a happy thought worked its way under her back hair.

What a delightful thing it would be to have a hive of bees and raise our own honey, as well as everything else.

I have always thought that woman inspired ever since she convinced me that I couldn't do better than to marry her.

This was an original, bold idea; happy thought; glorious idea. I promised her a hive of bees, and went to business with a lighter heart and a firmer belief in the genuineness of home comforts and amusements.

I bought a hive of honey-bees and brought it home with me that very night.

It was one of those patent, hydrostatic, back-action hives, in which the bees have peculiar accommodations and all the modern improvements.

It was a nice little hive, none of your old-fashioned twists or barn-size affairs.

It even had windows in it, so that the bees could look out and see what was going on, and enjoy themselves.

Both myself and Mrs. B. were delighted, and before dark I arranged a stand for the hive in the garden, and opened the bay windows so that the bees could take an early start, and get to business by sunrise next morning.

Mrs. B. called me "Honey" several times during the evening, and such sweet dreams as we had.

We intended to be up early the next morning to see how our little birds took to our flowers, but a good half hour before we probably should have done so, we were awakened by the unearthly yells of a cat.

Mrs. B. leaped from her downy couch, exclaiming:

"What can be the matter with Billy?"

The howls of anguish convinced us both that something more than ordinary was the matter with him, and so we hurried into our toilettes without waiting to do much buttoning.

We rushed out into the garden, and oh! what a sight met our astonished gaze!

The sight consisted of a yellow cat that appeared to be doing its best to make a pin-wheel of itself.

It was rolling over and over in the grass, bounding up and down, anon darting through the bushes and foliage, standing on its head, and then trying to drive its tail into the ground, and all the while keeping up the most confounded howling that was ever heard.

"The cat is mad," said Mrs. B., affrighted.

"Why shouldn't it be? The bees are stinging it," said I, comprehending the trouble.

Mrs. B. flew to the rescue of her cat, and the cat flew at her.

So did the bees.

One of them drove his drill into her nose, another vaccinated her on the chin, while another began to lay his work near her eye.

Then she howled and began to act almost as bad as the cat.

It was quite an animated scene.

She cried murder, and the neighbors looked out from their back windows and cried out "Police!" and asked where the fire was.

This being a trifle too much, I threw a towel over my head, and rushed to her rescue.

In doing so, I ran over and knocked her down, trod upon the cat and made matters no better.

Mrs. B. is no child in a wrestle, and she soon had me under her, and was tenderly stamping down the garden walk with my head, using my ears for handles.

Then I yelled and some more bees came to her assistance and stung me all over the face.

She was still giving me darby, under the impression that I was the cause of all her pain.

It was love among the roses, or something of that nature.

In the meantime, the neighbors were shouting and getting awfully excited over the show, while our servant, supposing us fighting, opened the street door and admitted a policeman, who at once proceeded to go between man and wife.

The bees hadn't got to Mrs. B.'s tongue yet, and she proceeded to show the policeman that I had abused her in the most shameful manner, and that I had bought a hive of bees on purpose to torment her into the grave.

I tried to explain, but just then a bee stung the officer on the nose, and he understood it all in less than a minute.

He got mad; actually lost his temper.

He rubbed his nose and did some official swearing. But as this didn't help matters, he drew his staff and proceeded to demolish the patent bee-hive.

The bees failed to notice his badge of office, and swarmed on him.

They stung him wherever he had no clothing, and some places where he did have it.

Then he howled and commenced acting after the manner of the cat and its mistress. He rolled on the ground for a moment, and then got up and made a straight line for the street, shouting fire.

Then the bees turned to the people who had climbed upon the fence to see the fun.

The excitement increased.

Windows went down, and some of the neighbors acted as though they thought a twenty-inch shell was about to explode.

By this time a fire engine had arrived, and a line of hose was taken through the house into the garden.

One of the firemen asked where the fire was, but just then one of those honey mosquitoes bit him behind the ear and he knew directly.

They turned a stream upon the half-ruined bee-hive and began to "play away" with one hand, while they fought the bees with the other. But the water had the desired effect, and those bees were soon among the things that were.

A terrible crowd had gathered in the meantime in front of the house, but a large portion of it followed the flying policeman, who was rubbing his affected parts and making straight for the station house and a surgeon.

This little adventure somehow dampened our enthusiasm regarding the felicity of raising our own honey.

During the next week we wore bread and milk poultices pretty ardently, but not a word was said about honey, and now Mrs. B. has gone to stay a week with her mother, leaving me and the convalescent Tom cat, and the tickled neighbors, to enjoy our own felicity, but not with bees—oh, no! J. B.

Queen Bees.

Means for raising queens are to be found in hives throughout the greater part of the year, and this is a wise and most beneficent provision against accident or sudden death to the important personage on whose life the welfare of the bee community depends, for as soon as the absence of the common mother is discovered, proceedings are at once instituted for supplying her place. By common consent, certain larvæ are fixed upon for royal honors, and around them are built large cradles with thick walls of wax. But these cradles do not take a horizontal position, like common bee cells—they project from the combs, and hang perpendicularly, with their mouths downwards. When made on the face of the combs, all other cells around them are destroyed; but where natural swarming is allowed, they are generally suspended like stalactites from the edges. Now this mode of rearing royalty—so different from the method employed in raising workers—has caused considerable speculation, and the question has been asked—why are queens placed in suspended cells, and made, as it were, to stand on their heads? and for what purpose are their cells loaded with far more jelly than they can consume? I have not the least idea why, wrote a Haddington bee-master a few weeks ago.

We think a reason can be given. In the first place, there is not room for large

horizontal cells between the combs, and in the second place, if a cell for the purpose of isolation requires to be lengthened and bent into a new position, the bees find it more easy, because more natural for them, to build it downwards. The position of the cell, though turned upside down, does not affect in the least the embryo. We believe the late Dr. Leitch, of Monomail, was the first to intimate to the public the fact of heat playing an important, if not the prime part in the evolution of queens. It is really the case that princesses require a much higher temperature for their development than common bees.

And what is rather curious, bees can command this higher temperature whenever they please! they can elevate the degree of heat in any part of the hive, and localize or confine the heat to that particular place. Thus, if a piece of comb requires mending, the temperature must be raised before they can manipulate it, but they can raise a circle of heat around the breakage, and keep the heat there within a limited sphere.

They can do the same thing to a queen cell. Having isolated it from other cells, they enclose it in a halo of caloric, two or three inches in diameter, and the heat in the halo is much greater than in any other part of the hive. In a unicomb hive, a distinct warm spot on the glass opposite a queen's cell can be felt by the hand.

The thick waxen walls of the cradle are designed to aid the bees in maintaining an equable temperature around its inmate, and prevent danger from rapid or easy chilling.

The superfluous jelly filling the bottom of the cell is put in for the purpose of bringing the larva forward to a position where it can be properly attended to, and its softness serves to keep the tender nursling from injury.—*Eng. Ag. Gazette.*

A Essey onto the Bee.

BY P. BENSON, SR:

whitch the Sr. stands for singger.

The bee is a very smoll animile, but it kan git over a verry hi fens. It belongs to the burd tribe, havin wings but no fethers, and is a verry good singger. It lives on hunny and beeswax and ripe froot of different kines. When it eets grapes it olwaze spits out the seeds and skins, or else leeves them hang on the tree. It gits its hunny out of flours when they 1st open, as Shakspeer butifuly expresses it,

"How doth the bizzi little bee
Improve eech shinnin our
& gether hunny oll the day
Frum every *openin* flour."

When a be goze up to enny 1 & kommences to sing, the person to which the be goze up to them, generly makes his hands and arms go verry fast and runs away and then the be gits mad bekoz thay wont lissen to his song and stings them.

That's 1 advantage of a tode. He is a verry unpretty animile but he never stings, leastways not unlest you should aggeryvait him verry mutch, and then he mite, but I never hear tell that he did.

The be is a aristokratick form of guverment and has a king be, and elecks a new 1 everry yeer or so.

The be and the misketo air boath good singgers and good stinggers.

The misketo keeps his stings in frunt of him whair he can see what he is doin, but the be keeps his sting behind whair he kant see what he is about, and is just as like as not to sting sumwhair whair it will hurt.

The be never suckles his young, and in this respeck is simmillar to a snappin turtle.

They ken be trained to stay at home every nite, but for a trainin to followgh his master around a dog is much supearor, for a be will followgh enny 1 else just as quick as his master if thay cum around his hive. The be olwaze lives in a behive and sumtimes in an old hollough log.

They never swarm in winter, but in summer when its a warm day, and generly thay watch their chance to swarm when fokes ar off to church or sumwhair els.

If thay swarm when the fokes is to home thay all start out with the dinnerhorn, 2 tin pans, the lookin glas, drippin pan, et settery, &c., & maik sitch a outragus nois that the swarm kant hear whitch wa to go & settles on the 1st appel tree that cums in thair wa, and then the fokes shakes them down at a hive with a sheet under it, and thay ameegitly go in and kommens hous keepin.

When I teech singin skewl I olwaze like to stop over nite whair thay keep bese bekoz hunny agrees with my vois.

Besides the hunny be thair is the parin be, quiltin be, and varis uthers too teejus to renumerate.

For the American Bee Journal.

Fertile Workers.

In July No., page 164, Stephen Hall asks what he shall do to destroy a fertile worker. Either of the two following methods will prove effectual:

1st plan.—Take a frame of brood with adhering bees from a strong stock and put in hive containing a fertile worker.

2nd plan.—Change places with a populous stock. A queen bee or queen cell can now be introduced, and accepted, as the fertile worker will be killed by the strange bees introduced. T. G. McGaw.

Monmouth, Ill., July 22, 1875.

I find in some of my hives worker pupæ unsealed. The pupæ have the shape of the perfect bee, yet perfectly white except the eyes, which are of a dull blueish color. Have these pupæ been sealed and again unsealed by the bees, or have they never been capped over? Will they come out and be as good as those which have been sealed and hatched in the natural way? How do you account for their being unsealed? Again I find among naturally capped worker-brood some cells lengthened and capped over as if they contained brood from a drone-laying queen or a fertile worker. How do you account for them? How do you determine whether a swarm has a drone-laying queen or a fertile worker, finding worker cells lengthened and containing drones, but not being able to find a queen, who may nevertheless be there, or may not. Which is the best way of getting rid of a fertile worker, and supplying a hive thus effected with a queen?

WM. MUTH-RASMUSSEN.

These pupæ have died from some cause, they will never "come out" but the bees will remove them. Sometimes this is caused by worms eating off the caps before the pupæ is grown.

The cells that are lengthened out probably contain drone brood. This often happens when there is little or no drone comb in the hive. There is no way to ascertain whether it is a fertile worker or a drone laying queen in the hive, except by finding the queen. If there is no queen there, a fertile worker is the monarch.

There is no way to get rid of a fertile worker but to break up the colony. Do it in this way. Put a hive where the one now is that has the fertile worker—and put in it a comb or two of brood and stores. Take the other out of the way a rod or two off and leave it there. Nearly all the bees will go to the old spot and begin to rear a queen from the brood given them.

The fertile worker does not leave the hive and she will be left there with a few others. After two or three days, take the combs of this hive to the old spot, brushing all the bees off. Let them starve if they will—there will not be enough to mourn over. You will then have in the old spot the bees of the old hive (or nearly all), and they will soon rear a queen, or if you have one to give them, they will accept her without trouble.

I am but a beginner in the bee business. Have six colonies—four in movable comb hives. Am so well pleased with the movable comb hives that I shall hereafter use no other kind. I used the extractor last season with success. I winter my bees on their summer stands.

The movable comb hives came through all right with one exception, and that was this: On examining these colonies a few days ago, I found several of the outside combs in each hive mouldy. Now I desire to know what was the cause of this and what is the remedy. My hives are plain boxes with movable sides and tops. Will you in your next issue give full particulars for artificial swarming, as I presume there are more of your new subscribers besides myself who would like to have information upon this point? I find the JOURNAL very interesting and instructive. FOREST PRESTON.

The ventilation of the hives was imperfect in some way. The moisture accumulated and this caused the comb to mould.

We have never kept honey over in tin cans, but do not see why it would be injured by being kept in them if the tins are new and bright.

For directions about swarming, see "Seasonable Hints," in June number.

One of my strongest swarms of bees are killing off the drones, while the other colonies that have swarmed have not killed theirs. This stock has not swarmed, but the bees hang on the outside nearly all the time. I had a weak swarm and I changed places with it and this strong swarm. The weak swarm seemed to be greatly helped, but the strong swarm killed their drones, in about ten days, although full of bees, and the honey pasture ought to be good now. Did the taking away of so many honey gatherers scare the rest into killing the drones?

MRS. MORRIS MCHENRY.

Strong colonies of bees will kill off drones, on any occasion when a scarcity of honey occurs or is threatened. In this case, your strong colony had its supplies much lessened by the outside bees going to the weak hive—its numbers also were less, and it became alarmed as to its "ways and means." Wisely, they began to get rid of useless consumers.

Probably the mode of yours was a good

one, in the end, though, before changing positions in this way, one should be sure that the weak one has a queen and is in shape to be benefited. If not, it is better to help it by the addition of a comb or two from another hive.

Is it necessary to feed bees when swarming or after they have swarmed?

A BEGINNER.

In bad weather it is sometimes absolutely necessary, at any time it helps a new colony, unless you can give it stores from another hive.

We have seen a peck of bees in an empty hive, put there after swarming, starve literally, during a long-continued rain. It pays to give them syrup to encourage in brood rearing and comb building, even in good weather.

LANSINGVILLE, N. Y.

I would be pleased to make a few inquiries, in relation to bees and their culture, through the columns of your valuable JOURNAL.

1st. Do you think bees, if wintered on summer stands, and protected from the north and west winds by a tight board-fence, do the best to face the south or east?

2d. Do you think it would be any better for the bees to set upon a row of corn-stalks on the north and west side of this fence? Some say the objections to corn-stalks are, if set up thus, that they will draw more or less dampness, and do more harm than good.

3d. Do you think bees can be wintered on summer stands in the vicinity of New York or Vermont, with safety? If so, please tell us how to prepare stocks in frame hives, for wintering on summer stands.

4th. Do you think comb that bees have died out of through the winter, is fit for use, unless perfectly clean and sweet, and free from bee-bread?

5th. Do you think that feeding very weak colonies of bees in the spring, that have plenty of honey in their combs, is of any use towards promoting breeding earlier?

6th. Do you think bees winter as well on summer stands, with honey at the ends of the frames, as above the cluster?

7th. Do you think new cotton factory cloth is poison to bees, when made in a quilt and placed over the tops of the frames? I have been informed that such is the case, and that it never should be used unless thoroughly washed and bleached.

D. W. FLETCHER.

We will answer our correspondent's questions, with regard to preparation for winter, in future numbers.

As to the combs in hives, where the bees have died, being fit for use — we can say that such combs have been used in many cases, and strong, healthy colonies been raised in them. The bee-bread will do no harm. We would brush such combs well and hang them in the shade or under cover, a short time, before using them. If not perfectly clean, a strong colony will make them so in a short time. We would not give them to a weak colony, unless perfectly clean, but you can take a comb from a strong colony to give to a weak one, and replace it with one that is old, and even mouldy, and the bees will in quick time make it all right.

We do think it pays to feed weak colonies, even if they have honey in the comb; either take all the honey from them, saving it for further use, and feed them syrup, or else uncap some of their own honey for them.

We have made many quilts of new cotton cloth, both bleached and unbleached, without any injurious effects.

MRS. TUPPER.—*Dear Madam:*—The very best cage for introducing queen bees into nucleii or full stocks, is a queen cell. I save all the large ones that hatch and by this means am successful in introducing *unfertile* queens. I enlarge the empty cell at the base with a flat stick or knife blade, put the queen into it in the natural position, and close up the cell, either by pinching the end together, or by pasting a thin piece of propolis over it, always leaving or making a hole large enough for the queen to put out her "tongue" that she may be fed. By the time she is cut out by the bees they will be willing to own her. You no doubt have noticed that bees frequently destroy a strange queen cell when given to them to hatch; but when they find a live, sprightly queen in it they do not kill her. At least that has been my experience in a number of trials, all of which have been successful. I have thought that an artificial cell made of wax, pretty thick, with pin-holes stuck through it might perhaps answer the purpose; but having plenty of empty queen cells I have, as yet, had no occasion to try it.

I take the liberty of addressing you that you may have an opportunity to try this plan, and an account of your success or failure in the AMERICAN BEE JOURNAL will be sufficient answer to this.

WM. C. PELHAM.

We had two queens when we received this letter from Mr. Pelham, inviting an introduction. At this time of the year we can always find queen cells, so in less than an hour after this hint came we had our queens in large capacious cells, and put them carefully in hives. Next morning, to our chagrin, we found the cells empty, prematurely, we thought; but an examination showed us the queens, very much at home, on the combs. This time it was a success. Thanks, Mr. Pelham. We shall try it again, even if we have to mould a queen cell over a thimble.

For the American Bee Journal.

Utilizing Drone Comb.

All drone comb that should be removed from the hive may be put into surplus boxes or frames, if white enough and clean. It is generally white enough until the brood that is first put in has spun cocoons. To remove the brood slice off the caps with a thin knife, or if the cells are drawn in at top ready for sealing, the thickened edges of the cells should be sliced off. Then lay the comb flat on a board and pour a stream of water on it from an elevation of a foot or two. The water will force out all the larvæ, and any eggs or very young larvæ may be killed by sprinkling salt in the cells. After the salt has been in a few minutes it may be removed by pouring on water. The fumes of burning sulphur will kill the young larvæ and eggs, if preferred. W. C. PELHAM.

Voices from Among the Hives.

W. W. MOORE, Clay Co., Iowa, writes: "The two stands of bees that I received from Mrs. Tupper a year ago, now number sixteen swarms, with one division this year. I am very much encouraged in the business."

Mrs. C. E. CRAIN, Milwaukee, Wis.; writes: "The flow of honey for two weeks has been very abundant, from white clover. Before that we had almost none, owing to cold wet weather, and the bees often got restless and seemed very anxious to be at work; but now every cell available is filled with honey."

T. J. WATERS, Quasqueton, Iowa, writes: "I received the nuclei Mrs. Tupper sent me June 8th. The weather was so bad that I did not transfer them until the 11th. I found them in good condition, strong and healthy. They are as strong as a full colony. There is an abundance of white clover in front of my house in a pasture lot of 55 acres, so I expect to do well. They have a hive containing 12 frames of old comb, with those she sent, except the drone comb."

BENJ. T. CLAREBY, Rolling Home, Mo., writes: "Bees are doing poorly here at present, but I think they will come out all right, yet. Have put into practice the treatment of bees as described in June number, Vol. XI., page 121, and find it to work like a charm. And all other suggestions that may be found in the JOURNAL have proven to my entire satisfaction. Believing that none of them will fail, I think it worth its weight in gold to any bee-keeper."

C. W. GREEN, Oquawka, Ill., writes:— "Bees have done nothing this season in this neighborhood. Very few natural swarms. To-day (July 19th) is the first day that bees have come in heavy with honey. My bees had plenty of honey when taken out of the cellar. So that by giving frames of honey to the hives that were out (wintered on summer stands), they have all lived and are mostly in good condition to gather honey. What honey we get this year, will be from monarda and buckwheat. My bees are Italians and Hybrids; had 26 hives in the spring; increased to 41. Out of over 60 hives of black bees in this vicinity, have heard of *only* one natural swarm. No blacks for me."

T. G. MCGAW, Monmouth, Ills., writes: "This has been the poorest season for honey I ever experienced. From the middle of June till the 10th of July bees have had to be fed, to prevent them from starving. Since the 10th strong stocks have gathered enough to supply their daily wants, and brood-rearing is going on again quite rapidly. Most of the honey gathered now, is from the common black mustard (*Sirupis Nigra*), the honey being of a limpid golden color and blank taste. I have not taken an ounce of either extracted or comb honey this season; neither have I had two square feet of comb built. Still I am in hopes, before frost comes to get a good yield of box honey from the fall flowers. The white clover was badly frozen out, and what did bloom, did not seem to secrete any honey."

M. D. DUBOIS, Newburg, N. Y., writes: "I have 17 hives; but no new swarms to date, (June 10th). Bees are very late in swarming this summer. Last year the first swarm was May 29th. Last year, though a late spring, it was an extraordinary good season for honey. This season bids fair to be very poor as it has been very dry and cold; but my bees have been for the last three days tumbling in honey from locust blossoms. It seems they would break their little necks, they are in such a hurry about it. We have no basswood here. The principal source of honey is apple blossom, locust, and white clover, of all three of which we have plenty of. But I planted 1,000 young basswoods in my nursery to grow for my-

self and give away to my neighbors for the benefit of my bees; also tulip trees. If Mrs. Tupper likes a portico to her hives, I wish she would try my adjustable portico, it works like a charm and there is no patent on it. It can be made for 15cts. or less, and fits any hive."

R. BACON, Verona, N. Y., writes:—"Bees in this vicinity have wintered badly. Some bee men have lost all they had. I could have made as good a report on mine, on the 6th of April, as many others did at that time; but since then I have lost heavily. I put into my bee-house, last fall, 128 stocks. Some, no doubt, were not perfect or fit for wintering; but I had not time to select them. On the 1st of April, I had lost three stocks, but after that they had dwindled down to 87 stocks, and some of those were weak. This spring, with me and many other bee men, has been much worse than this winter. I fear the bees are so reduced and the season so far spent, that there will not be much of a honey crop this season. I see some report that they have given their bees large quantities of meal. I think that is wrong. Does it not stand to reason that more than they want for present use tends to shorten up the room for brood, and does more harm than good? I hear many complain that their bees go to the woods in swarming time. I would say to such, if they will give their bees good clean hives and shade them well from the sun, they will have none of this trouble. Hives should be kept in a cool place before the bees are put in them."

W. PORTER, Fairfield, Wis., writes: "I had a plum tree blow on a hive, and not wishing to destroy it, let the bees swarm as they would. The first swarm was secured all right; the second swarm came out and went back, another going with them. The next day they came out and were bound for the woods without alighting, but were stopped. The next day but one after, another swarm came out about nine o'clock and started for the wood, but were fought stubbornly for about half a mile, and passing water were stopped. About noon the same day another swarm did the very same thing and met the same fate. The next day another came out, started the same course, but being taken in time, were compelled to give up the chase. Two days after this another came out, and another swarm being out with them, they in part went together and stopped on a tree, but before I could hive them they went the way of all the others and succeeded. None of these swarms were put back; only one went in to it. Five swarmed and all tried to get away."

DR. W. B. RUSH, Point Coupee, La., writes: "It has been a long time since I wrote for the good old AMERICAN BEE JOURNAL. April 22d I left my native hills in Pennsylvania for a warmer climate. I stopped at Cincinnati, Ohio, two weeks, at the suggestion of J. W. Winder. I called on friend Chas. F. Muth; he and I visited Mr. J. S. Hill. We found an excellent apiary of 82 colonies in a condition that any apiarian should be proud of, and as all will testify, Mr. H. is a most excellent man. The next morning P. M. McFabridge called on Mr. Muth and the two called on Messrs. P. Curry, Stevenson and Savage, and had a fine bee talk. Mr. Muth is not buying as much honey this year as last. Mr. Winder has his apiary at Lawrenceburg, Indiana, and is trying to raise queens, but I think queen raising north of Arkansas or Southern Tennessee, is a very expensive business. In Louisiana, they can be raised for $2 and tested with more profit than at $4 at the far North. Mr. Winder has some queens and also Mr. Hill. I left Cincinnati on May 7th for Louisiana. I stopped off at Bowling Green, Kentucky, and the outlook for bees was good—plenty of fruit and clover growing. I stopped at Water Valley, Miss., but it seemed too sandy to do much good there. I came to New Orleans, where Mr. J. H. Young met me. He is quite an intelligent man on bees. He has a new frame that is worthy the attention of bee keepers. It is the regular Langstroth frame with tin supporters on the corners. After 24 hours' ride on a steamer I landed in this parish. I met Hereford, of Baton Rouge, on my way. I was the guest of Mr. Chas. Parlange for two weeks, and any one visiting this State for bees, should not fail to call on Charley; he is a gentleman and very intelligent. I got one hundred colonies of black bees on June 1st, and I am now waiting for my machine. I will buy 100 wild swarms and go into winter quarters with 300 good stocks. I intend to Italianize all. I am *delighted* with the country. Mr. Parlange let Mr. Webre have 65 colonies on April 1st. By June 17th they had increased to 150 and taken 20 barrels of honey. I arranged a hive for him with three stories, each story containing 9 frames—9x17. The first three weeks of June he took 18 gallons of honey from it."

A PLANT DESTRUCTIVE TO BEES.—The large podded milk weed, almost invariably causes the death of every bee alighting upon it. The bee either adheres to the plant or else bears away a small scale sticking to its feet, and cripples itself fatally in attempting to remove the annoyance.—*Agricultural Report.*

Upon the wrapper of every copy of the JOURNAL will be found the date at which subscriptions expire.

American Bee Journal.

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JOURNALS are forwarded until an explicit order is received by the publisher for their discontinuance, and until payment of all arrearages is made as required by law.

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☞ Parties desiring either Langstroth's or Quinby's Works on Bee-Keeping can get them at this office; but, as the late Congress doubled the rate of Postage formerly paid—those ordering should enclose twenty cents each for postage.

GERMAN BEE STING CURE.—A drop or two will remove all trace and effect of a sting in a very few minutes. It costs $1.00 per bottle; one bottle will last a life time. It is free from all poison, and may be successfully used for all insect bites. Can be sent only by Express. For sale at this Office.

☞ Special Notice. ☜

During the past winter and spring the general cry has been: "Hard times; please wait a little while for our subscription." In consequence, our receipts have been light, while our expenses have not been lessened.

We have cheerfully "carried" thousands of our subscribers, and now trust that they will respond as soon as possible, as we have obligations that must be met *at once*. Many subscriptions ran out with the JUNE number, but we hope to hear from them NOW, as well as from those that expired before that time.

We shall continue to send THE AMERICAN BEE JOURNAL to all our subscribers until we get an explicit order from them for a discontinuance, and we hope those who do not wish to continue their subscriptions will notify us by letter or postal card either when they expire or before that time.

We ask those who are in arrears to send us the amounts due or at least a part of them, during this month, as THE AMERICAN BEE JOURNAL greatly needs these amounts to ensure its continued prosperity. Address

THOMAS G. NEWMAN,
196 and 198 S. Clark St., Chicago, Ill.

ADAM GRIMM, of Jefferson, Wis., is one of the largest honey raisers in the world. His crop for last year was 25,919 pounds, and his apiary consists of 1,159 colonies. So says a political exchange.

☞ The postage on seeds, transient papers, etc., having been doubled by late act of Congress, we shall be obliged to ask our customers, when remitting money to us for seeds, or specimen copies of JOURNAL, to send the necessary stamps for postage. ITALIAN BEE CO.,
Des Moines, Iowa.

Hereafter, in order to secure the prompt attention of the publisher, let all communications and remittances, as well as *all* matters pertaining to business connected with the AMERICAN BEE JOURNAL, be addressed as follows:

THOMAS G. NEWMAN,
196 and 198 South Clark Street,
CHICAGO, ILL.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, SEPTEMBER, 1875. No. 9.

Seasonable Hints.

From all quarters we hear that the season has been in some respects a discouraging one for the bee-keeper. A cold, late spring was followed by excessive rain, and this continued until the white clover season was nearly over. Linn in some places yielded little or nothing. With us, it yielded honey only three days, and then less than usual.

In damp, wet weather, for some unexplained reason, bees use most of their honey in brood rearing, and this accounts for the reports which we have from many to this effect. "My bees have stored no honey in boxes and very little below—*every comb seems full of brood*, but I get no surplus." Now, there has been honey, or they could not have reared the brood. In all sections where the fall pasturage is good, we look for great yields of fall honey, because the hives are full of bees, and also because the rains have kept the corn fields weedy and promoted the growth of all fall blossoms. Give the bees, then, every facility for storing honey, and until frost they will do it. They are not disposed to store in supers so late in the season, but give room in the main hive and then extract it often. By doing this you will also give the queen room, and she will provide the young bees that are essential to safe wintering.

We have often said it—but we now repeat the advice: What every hive needs now is a fertile queen, room for her eggs, and force enough to keep all in working order. This is absolutely necessary to secure good winter condition. Any colony that has not these requisites now should be either broken up or divided. In going through your apiary now, you will find that exchanging combs between a strong and a weak colony will benefit both, and this is *the* time to do it, and equalize all preparatory to winter. All changes can be made better now while bees are still storing. Of all the times to introduce young queens we prefer the fall. Every Italian queen put in a hive now will be at her best next season, and by putting one in every hive now, you make sure of having no black drones next year.

Leave no scraps of comb about now, and no worms in hives to winter over.

Too many bee-keepers pay little attention to their stocks in this month, but there is no time when work in the apiary pays better. E. S. T.

Special. — To Our Readers.

In our October number of THE AMERICAN BEE JOURNAL, we desire to publish several pages of correspondence in answer to the following questions:

1.—What has been your success this season up to date, as regards honey and swarms?

2.—What is the prospect for the balance of the season?

3.—Which are the *best* three honey-plants in your location?

4.—When do they *begin* to yield honey, and *how long* do they thus continue?

We desire responses to the above on receipt of this issue of our JOURNAL, and from every subscriber on our list. Reader, we mean *you!* If responses from the Pacific coast do not reach us in time for our October JOURNAL, we will try to find room for them in the November number.

Do not fail to date your letters, nor to give us your name and address.

If you send any questions relating to bees, be so kind as to write them on a separate sheet of paper.

Honey-Producing Wild Flowers.

I send you samples of two flowering plants. I don't know the names, and will be obliged if you will give their names in THE JOURNAL. They are both in bloom now, and the bees are very fond of them.

No. 1 is a plant with long, narrow rough leaf; has several stems, on which small blue flowers are thickly set; grows about 18 inches high. It grows along road-sides and on the commons generally, grows on rich or poor soil. Bees seem to prefer it to white clover.

No. 2 is a pollen flower; has rough leaves and has several stems from each crown, with a pod-like seed ball. The stems are almost 18 to 24 inches high. There are quite a number of other wild flowers here that bees gather stores from.

Russellville, Ky. T. E. SHELTON.

Prof. C. E. Bessey, Professor of Botany at the State Agricultural College at Ames, Iowa, gives the following descriptions of the plants sent by our correspondent:

No. 1 is the narrow-leaved Verbena. (*Verbena angustifolia*). It is found from Massachusetts to Wisconsin southward. It probably occurs sparingly in Iowa, but in the South it is abundant.

No. 2 is Ribgrass, Ripplegrass or English Plaintain, (*Hantago lanceolata*). It is a near relative of the common dooryard plantain, and like it, is a native of Europe, from which country it has come as a weed. It occurs in Iowa in the vicinity of dwellings. C. E. BESSEY.

The Centennial.

It is time that we were hearing from all bee-keepers who design to aid in the exhibition at the Centennial. We shall be greatly disappointed if every one who has bees does not feel a personal interest in making the display of apiarian wares worthy of the business it will represent. We refer those interested to the description of the display made in England last year, and which was given in THE JOURNAL. Those who would like to aid in the work, and do not know just what they can do, may find help in consulting the list of things exhibited there. We hope to have many more articles and a greater variety, but to secure this we must all have the work in mind — not leave it for a few individuals to do, or let it lay until the last moment.

☞ The publisher of THE AMERICAN BEE JOURNAL made a business trip to the East last week, and enjoyed a brief visit with Mr. A. I. Root, at Medina, Ohio, better known as "Novice," who publishes *Gleanings*. We examined his New Idea Bee House. If it is as good in practice as it is in theory, it will certainly be a grand thing for wintering. We will give a full description of it in our next issue.

At New York we saw Mr. H. A. King, of patent-hive and bee-publishing notoriety for the past ten years. He has now left the business and is devoted to publishing a religious paper called *Union in Christ*. We also interviewed Messrs. King & Slocum, the present publishers of the *Bee Keepers' Magazine*, who are energetic and business-like gentlemen. Our visit was very brief, but it was also very pleasant.

Back Volumes.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the ten volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum. Many of the numbers we have paid fifty cents for, to complete them. Those who wish them, should write us at once for price.

We have several single volumes (complete), which we will send postpaid for $2.00 each.

Several volumes, which lack only a single number of being complete, we will send postpaid for $1.00 each.

Vol. 1, we can supply in cloth boards, postpaid, for $1.25. Bound in paper covers, $1.00, postage 10 cents. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through all the numbers, and are from the pen of the Baron of Berlepsch.

☞ Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain these back volumes. Many of our best apiarians say they would not sell their back volumes of the AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginners and more advanced apiarians.

Voices from Among the Hives.

D. H. OGDEN, Wooster, O., writes: "Bees in this section are not generally doing well. There is neither honey nor increase. About May 1st, 1874, had seven weak colonies, but by Sept. 1st they had increased to thirty-two strong colonies. My hives were of the old style King pattern. I also got 40 lbs. of nice box honey. About Nov. 1st, I packed straw around them and covered them, to winter them on the summer stands. It became cold immediately, and I did not see another bee until the end of January, 1875. Then, on a warm afternoon, I opened the tops of the hives to make egress easy, and they had a good fly. From then until March 10th they were covered up again. I then took away the straw, opened the hives and cleaned them all out, and didn't lose a bee. I now have 21 strong colonies, the new ones in ten-frame hives (12½x14½). They are now nearly all filled. If my bees had not been strong in the spring, I should have had no increase. When I opened them in March they had from seven to eight cards full of brood, and the hives full of bees too. The fruit was nearly all killed by the frost, and there was no bloom till white clover came, of which there was a fair crop. My bees have done very well considering the season. If the white clover lasts some time yet, I shall get considerable box honey. I divide my bees by taking from three to four cards (with bees on) out of the old hive and put them into the new; I then set the new hive where the old one stood, which I remove some distance away (not less than four feet). Of course I give the new one a queen, and they always do well and prosper." August 2, 1875.

WILLIAM REYNOLDS, Boliver, Pa., writes: In THE NATIONAL BEE JOURNAL for 1874, page 162, is an article, headed "Bees or Hornets," from J. F. RODGERS. My experience is similar, and it is this: I received my queen from Col. Leffell, Springfield, Ohio. She raised drones, the greater part with white eyes and reddish colored head. I have still raised all my queens from that strain and my experience is this: Every hive in my apiary (some fifty odd) has about one half of this kind of drones. They are the finest colored drones I ever saw, but they are stone blind; not one of the white heads that issues forth ever finds its way back again. The other half that have heads of natural color are all right, fly in and out regularly, and are in every respect complete. This shows me that it is the breed, and that they are of a superior breed too. This dropping off of the blind drones prevents the hives from being so full of drones as they otherwise would be, and suits where bee keepers are too careless to regulate their drone combs. From my experience I would recommend every bee keeper to propagate this strain of queens. Every queen I have reared from this one, shows this feature in the drone progeny."—July 20, 1875.

G. E. CORBIN, St. Johns, Mich., writes: "On page 184 of your valuable JOURNAL for this month, a correspondent from West Chester, Pa., essays o enlighten its readers. I quote: "Bees are very prolific, hatching out a brood every nine days, from early spring until late in the fall," etc. . . . "The first hatching in the spring is from eggs laid late in the fall, which are protected in such a manner as not to allow them to hatch until new pollen is to be had." . . . . "There are but two classes of bees, male and female. . . . They would all be of one class if the cells were all made of one size and shape; their disparity in size makes the difference." Is an insane asylum located at West Chester, Pa.? It does not matter, however. I, for one, am willing to contribute to have the bees spoken of sent to the *nearest* asylum, wherever that may be."—August 3, 1875.

PAUL VIALLON, Bayou Goula, La.—"This season has been one of the best for several years. From the 1st of April to the 15th of July, I have made three new colonies from nearly every old one. I have extracted an average of 50 lbs. of clover honey from each; and from the few I did not divide, I extracted an average of 140 lbs. each and expect as much from all in September and October, from Golden Rod and Boneset. I took a first natural swarm on the 29th of March, which has filled its hive (20 frame hive New Idea plan) and has given a swarm, which has also filled its hive, and both have been extracted several times. They are our native bees. So far I cannot see much superiority in the Italian bees over our native grey bees. We have two kinds of bees here—the grey and the black. The last named are smaller, and really worth nothing in comparison to the others."—Aug. 4th, 1875.

JOSEPH CLIZBE, Woodbine, Iowa, writes: "I commenced the spring of 1874 with 13 stands in movable comb hives. Increased by artificial swarming to 20 stands. I put them in a cellar 20x26 feet, left them in care of an agent and went East on a visit. The house over the cellar had no fire in it, consequently the cold and damp chilled the bees, and they all died except five stands that I took out in March. Two of those were queenless; so I doubled them up into the other three hives, and from them I have made seven new stands. Having now ten stands (mostly Italians) I extracted 75 lbs. of honey, and may extract some more, but not much, perhaps, as I want them to go into the cellar with abundant supplies.

I shall have a stove in my cellar next winter to counteract the influence of those terrible "north-westers."—August 2, 1875.

A. BOYD, Jay Co., Ind., writes: "This has been a very poor season for the bee-keeper in this portion of the country. It has been so very wet there has been no honey in the flowers, and the consequence is that the bees have not as much honey as they had in the spring. There has been enough honey gathered to keep them increasing fast enough, and we have generally more than doubled our stocks, but I know of no one getting any surplus, and it has been wetter the past week than before. If it does not get more favorable for a fall honey crop than it has been, there will have to be a great amount of feeding done, or we shall lose what bees we have the coming winter. There is much buckwheat sown. So if the weather is favorable for the secretion of honey we expect our bees to fill up without feeding."—August 2, 1875.

R. MILLER, Crompton, Ill., writes: "As there was a great deal of talk about California as a great bee country, I took the time and money to go there last winter to examine the honey and bee resources of that far-famed country. I have not seen any place in California that I liked as well, as I could find plenty of places here. It is a poor mountainous country, very dry, and of but little account unless it can be irrigated. Water is the dearest thing in all California. I saw more poor people in California than in any place I ever saw. There are only one in about 50 who have any land, or anything else, and, as a rule, they are very unsociable people. I have a relative who went there with $1,600 and in about one and a half years he lost all he had. His bees got the foul brood and he lost them, and is coming back. There are no advantages there that cannot be obtained here. I can not do better than to refer to the letter in the August number of THE AMERICAN BEE JOURNAL, page 181. It tells the truth, about as near as can be. —August 5, 1875.

S. W. STEVENS, Ridgefield, Conn., writes: "The present season has been the poorest for honey that I have known for several years: We lost ten stocks during winter and spring, and our remaining 25 stocks have given us but 100 lbs. of honey thus far; sumach is just coming in bloom, and I think will give us a good yield, if the weather is favorable. White clover, which is our main dependence for surplus honey, was nearly all killed by the severe winter, and the little that survived the winter seemed to yield no honey, as it was scarcely visited by the bees. Our bees have been making brood rapidly for a month past, and we are hoping for an abundant yield of honey from autumn flowers."—August 2, 1875.

J. F. BROWN, Winchester, Va., writes: "This has been the poorest season for honey raising we have had for ten years. Up to this date last season I had taken from 27 colonies 2,000 lbs. of box honey; but from 47 colonies this season I have not taken 200 lbs. The blue-thistle, from which we get our main supply of honey is now about dried out. I had three of my best colonies to burn up this spring—the effect of having my apiary spread with sawdust. I never before had as much trouble getting my young queens fertilized. Out of 25 young queens I had ten more lost on their bridal flight."—July 21, 1875.

JAMES M. MARVIN, St. Charles, Ill., writes: "Fruit flowers were nearly all killed this year, as well as clover. The late crop of clover yielded but little. The linden flowers were eaten by an insect. I only obtained five barrels of surplus up to Aug. 2nd, when I should have had fifty, for my stocks are very strong, and have been in extra good condition this season. The increase is thirty per cent in swarms." —August 5, 1875.

LOUIS SCHNERR, Shrewsbury, Pa., writes: "I have now fifty stands of bees. I expect to get one thousand pounds of honey. I commenced 3 years ago with 3 stocks. The weather has been very favorable here. We had honey dew here for over five weeks. Last year I bought half a dozen queens, for which I paid $3.00 each, and now I am not able to raise pure stock. The queens are very nice colored, but their daughters are all impure, and black."—July 26, 1875.

WILL. M. KELLOGG, Oneida, Ill., writes: "No honey yet this year, but bees are doing finely in regard to brood. Have had too much wet weather; basswood did nothing for us, and white clover little better. We are hoping for our usual honey harvest in Sept. Will have stocks good and strong, if there is honey for them to gather."—August 6, 1875.

I. INGMUNDSON, Austin, Minn., writes: "I have received from Mrs. Tupper, the foundation comb. I consider it a perfect success in every way, except the fastening, which I think can be improved. I put some in my glass-observing-hive, which is for single frame, and find the bees lengthen out the cells very readily. The price, however, I think is too great to use it extensively, but to cut it in inch strips and use it for starting, it will be a great help."—July 24, 1875.

CHARLES LOHMAN, Cameron, Mo., writes: "Black bees have about given out in this part of the country, but the Italians are doing finely. What I have learned from THE AMERICAN BEE JOURNAL, during the past six months, will take me ten years to put fully into practice."—August 3, 1875.

Correspondence.

For the American Bee Journal.

The Swarming of Bees.

It has often struck me as strange that bees never select a prepared home—that is, a hive made ready for their occupation. I have kept hives near the swarming colonies all in complete order, but not a swarm would ever pay the least attention to one. On the contrary, they will rise to the loftiest trees near, and there remain uncomfortably perched, as one would suppose, until their scouts report a hollow tree, affording poor accommodation at the least, and likely a long way off in the forest, to which they betake themselves in preference to any Langstroth, Quinby, or other patent hive ever invented. I take it that the little fellows are shrewd enough to know that they are in a state of slavery while under man's control, and that their running off is simply a strike for liberty. A swarm of my Italians, the past Spring, were found in a tree eight miles from home and safely captured. I have read in the books, and heard related, that if you could catch the queen during the swarming operation, and place her on a pole or limb, the whole colony would immediately gather to her, but such has not been my experience. We have a little pet darkey of ten years, who has an eye like a hawk, and is as vigilant to catch a queen as is a cat to steal cream, and at the first signal of swarming, he is sure to be on hand at the mouth of the hive, bravely, regardless of the thousands of bees darting and buzzing around his naked head, and he often intercepts the queen as she comes out, and sometimes finds her on the ground near by, and I have clipped their wings and placed them in many various positions, and held them in the very thickest of the swarm, yet never in a single instance have I succeeded in collecting the swarm to her.

Nevertheless, by securing the queen the object of preventing the swarms leaving is effected, for when they fail to find her majesty they invariably return to the mother hive, and so if you have the queen, all you have to do is to move the old hive out of the way, substitute a new one in its place, and when the returning bees begin to enter it, put in your queen, and, presto, your bees are hived without the trouble of climbing a tree to get at them, to say nothing of stings and other vexations too often attended on the operation of hiving in the good old way. I always give my newly-hived colonies a frame or two of brood comb, by way of giving them a new start in the world, in which case they will never desert their home, as they frequently do if left alone to their own resources.

I lately witnessed, at my friend W. S. Cary's, in the town of Tangipahoa, a most remarkable circumstance in comb-building. He had a second story of frames, which being filled some month or more ago, he cut the comb out and returned the frames. Now, what did the bees do *but build the comb upward* from the tops of the lower tier of frames. True, they did not build very perpendicularly, but they evidently did the best they could toward it without an upright to guide them. Does not this indicate that they possess reasoning powers? Their inference doubtless was that the comb had fallen off from the upper bar by its superincumbent weight, hence their wise conclusion to reverse the order of operations, and build *upon* a base instead of *from* it. If any person doubts this wonder in beeology, there the thing is to be seen for itself, plain, undoubted and unquestionable, near a dozen combs all being built upward from a bottom foundation. But that is tautology.

Some time last year, being hard pressed for frames to fill my hives, it occurred to me to put in a single straight bar for the bees to build from, and it succeeded so well that I have this year tried whole hives in that way, and in every case they build smoother and straighter comb from them than they do within the frames. So I flattered myself that I had made quite a useful discovery; but the wind was taken completely out of my sails by seeing in the Bee Journal that Dzierzon, a German apiarian, had some years ago recommended the very same thing.

In building from a single bar, they will attach the comb at intervals to the ends of the hive, which merely serves to hold it steady, and in lifting it out, all you have to do is to run a knife down the ends and separate it from the boards. A common case knife will do the work, and I find it less inconvenient than prying out the frames, which will, in spite of you, be glued in their places in one way or another. For extracting honey the frame would be perhaps preferable; but for all other purposes, and especially for straight, smooth comb, the bar has the advantage. J. B. R., of Abbeyville, says he puts in two nails in the ends of his frames, as one does not hold them steady enough.

Now, the design of the nail in the end is to let the frame swing to its proper perpendicular, as the bees in making comb form themselves into a plummet, and work to a perpendicular line; so if your frame does not hang right, the comb will not be made to follow it. With two nails in the ends it would be an accident if the frame hung perpendicular.

I am aware that some successful bee-keepers make their frames to slide in

grooves, and they are therefore steadily fixed, but in that case the frames are made square with the box, and the latter put on a level, which secures the frames in the proper upright position. As some of your readers may wish to try the single bar plan, I will say that it is simply the upper stick of the frame used alone. I take an inch square piece and saw it off an eighth of an inch shorter than the inside of the hive, drive small nails into the ends at corresponding corners, and let them rest in rabbets, just as a frame does. The lower angle forms the line guide for the comb builders, and in my experience they invariably follow it; whereas, in frames they often diverge from the top line, with the view, I think, of avoiding the end piece. The only way I can ever get them to build true in frames, is, either to put a frame between two combs, or else elevate the back end of the hive to an angle of ten or fifteen degrees.

I. APPLEWAITE.

For the American Bee Journal.

Bees in California.

I have lately received a letter from a prominent Kansas bee-keeper who went to California last Spring. I hope you will publish the extracts from it that I send herewith in answer to Mr. Whitney's letters that have appeared in THE JOURNAL, and may mislead a great many. As I intended to go there myself, I have been interested this season in getting information from that section of our country, and I have had very good facilities for doing so, as many of my acquaintances went there last spring. A few of the facts about the country are as follows: Some 500 or 600 miles of the southern part of the state are about, as my correspondent states, as near a desert as can be. There is only one stream that reaches the ocean from the mountains for over six hundred miles, and that only runs in a little dribble for a short time.

When Mr. W. refers to the fruits and the harvest fields, he must mean a portion of the state five or six hundred miles from where he lives, and then the facts are that laboring hands could not there get employment at any price. The country has been perfectly glutted with common laborers this season. Mechanics have done somewhat better; especially carpenters—they getting from three to four dollars per day (gold). Masons they have no use for, as they don't build brick or stone on account of the earthquakes.

As to bees in San Diego county, all favorable locations are now occupied, and it is probable that the country is already over-stocked for profitable bee-keeping. Mr. W. says "society is good." That may be a fact, as it is always good in a new country sparsely settled, and especially where there is no women, and the men principally all "baching it." But to the letter referred to above:

"Though I have been here only three or four weeks, I will give my impressions. Of all the God-forsaken, dreary, desolate, utterly useless, desert country you ever saw, this is the worst. Sailing as I did down the coast, we rarely left sight of land from San Francisco here, the whole way the country was barren of trees, and the whole face of the country looked dead and destitute all the time. San Diego is a small town, from which half the people who settled here a half dozen years ago, thinking they would make their fortunes by owning town lots at the terminus of a great railroad, have left for America, and as a consequence, one half of the houses and stores are vacant, rents down to nothing. The town is dead as to business, and a general air of get away and live if you can, if not stay and starve in the town. They have a daily line of two-horse stages from here up the coast to Los Angeles, 120 miles, and a line of steamers from San Francisco, arriving once in about five or six days. The town is supported mainly by invalids, who came here for their health, and if they don't die of ennui, they are well enough to live elsewhere.

"About every third man you meet, curses the country, and wishes he had been anything but a fool to come here and invest money."

"There is no green thing here, except in small gardens, where they have wells and wind-mills to throw on plenty of water. They can't raise a thing here farming, for they have tried it and been ruined by the dozen and hundred. The whole country is worthless for anything except sheep and bees. The sheep men have now practical possession of all the grazing lands. I saw thousands of sheep herded on land as bare as a road. They claim great profit in the sheep business, and I presume they do well if they only have the range. Still wool is only 12 to 17 cents, so I don't see any great money in it. The face of the country, from 15 to 20 miles from the coast, is rolling and covered with cactus and bushes, none of which are more than six to eight feet high, but mostly about two feet. The soil is a sandy gravel, mixed with clay, overrun with swifts, horned-toads, snakes, ground squirrels, gophers, rabbits and quails. Thousands of acres are perfectly honeycombed with gopher and squirrel holes, giving a homesick and desolate look perfectly unendurable to one who has been in Kansas. The climate is all they have, and that is the same day after day—warm, cold, warm, hot—but you want to wear winter clothes.

"A day or two after my arrival, I took a

horse and rode out to Bernardo and beyond, some forty miles, and visited a large number of bee-ranches. The bee-men have squatted all over the government land where they thought they could get good ranges for their bees, living in small flame houses, and mostly without women —"baching it." Bees did so extraordinarily well here last season, that they created a perfect furor, so that all the citizens here in town, who had any money to invest, went out into the mountains and hunted up a claim, and buying at $15 or $20 a hive all the bees they could. Some few attended their bees and some let on shares, giving one-half the honey and one-half of the increase, and furnishing one-half of the hives and surplus boxes; others live near to take care of them.

"Last winter was dry, but the bees started out nicely to swarm the latter part of March, but the first of April they had a heavy frost, which cut off all the flowers and put an end to swarming; since then many a fine swarm has starved to death, and it is only since the fifteenth of this month (May), that they made enough to live on. Now they are doing only fairly, and they say they will not get one-half a crop of honey. Many are discouraged, particularly the new ones and those who went into the business green, as might be expected. This Fall, say October, you can buy an apiary in box-hives for less than $3.00 each. I had fifty stands offered to me in Harbison's hives, at $5.00 each; dozens of ranches, and bees will be for sale cheap by discouraged bee-keepers.

"I have been to Harbison's two or three times, and at one of his six or eight apiaries, where he had 400 stands, he lost over 3,000 hives last spring, and feels much discouraged with this year's work. I saw the man who wrote the article in THE AMERICAN BEE JOURNAL; all the men he mentioned are mad for his making the statements he did, saying he only told one side of the story. It is very costly getting started here, one must have at least $2,000 in gold after he gets here. They will not look at an extractor here; extracted honey from 3 to 5 cents and nice comb honey 15 to 16 cents. Harbison says his Italian bees averaged for the last five years, as follows: In 1870, 30 lbs.; 1871, 70 lbs.; 1872, 90 lbs.; 1873, 60 lbs.; 1874, 150 lbs.

"I would not advise you to come here; go to Texas, or anywhere else, rather than come here. Vegetables for family use are raised by a very few who have good wells to irrigate all the time. Not one bee-keeper in twenty has or can get water enough to raise what he can eat. They have tried fruit of all kinds, and yet I am told none succeed. Chickens seem to be rather plenty, but they are 75 cents each, and die off by the dozen in the summer. No one raises any hogs; they would eat their heads off with barley at 3 cents per pound. Potatoes are from 4 to 4½ cents per pound. Butter, 37½ cents; but nearly all they use comes from San Francisco.

"This country, like a blank corner of a checker board, is as near a desert as it can be and miss. If not that sheep and bees do well here, it would be utterly depopulated in two years. Two steam mills are here, and make little else but bee-hives and material for honey boxes. You can have the material all cut ready to nail for Harbison's hives for $1.80, Langstroth's for $2.25, and your style, which Bowman gets them to make, for the same. Their idea here is to get as much room for surplus honey as possible. They put on as many as eight sixteen-pound boxes at once. Nearly every one now has enough empty hives for next year's swarms. Some provide themselves with three new hives for each old one, and as not more than one hive in five have swarmed this year, they have the balance to carry over to next season, and as the expense in a large apiary is heavy, there is lots of dead capital. One can get all the bees he wants on shares. Dozens of men are at work for their board at the ranches, mostly invalids. G. F. M."

For the American Bee Journal.

Fertile Workers.

In "Notes and Queries" in July and August numbers of THE AMERICAN BEE JOURNAL, I saw a statement as to how to get rid of a fertile worker, in answer to a query of Stephen Hall, which is at variance with my experience (which is limited, however). I have had but two hives infested with fertile workers. One was in the summer of 1871. The hive became queenless by loss of the young queen after hatching, and before she commenced to lay. I allowed the worker to remain in the hive until her progeny commenced to hatch, without any attempt to supplant her. I then, as I had frequently before, attempted to find her in the combs, but failed. I then shook the bees from the combs, and "run" them five or six times over, but failed to find her. Before putting them back into the hive, I introduced a laying queen to them, by scenting with peppermint, and run them into the hive. The queen was accepted, and I had no more trouble with the fertile worker.

The other instance occurred about three weeks ago, in a hive that had swarmed, and the queen had hatched, for I saw her. When she should have been laying a few days, I opened the hive and found an *abundance* of eggs, ranging from one to one dozen in a cell, while some cells were empty. I examined the combs closely

and found the queen missing, but could not detect the egg layer. I at once inserted a queen cell, which hatched within 24 hours. She has become fertile, and is filling the combs with brood. The worker continued to deposit eggs, until about the time the queen commenced laying, but since then I do not see any of her eggs. I was able to distinguish her eggs from those deposited by the queen, as they are much smaller, and not one out of a dozen appeared to hatch. As these modes of supplanting a fertile worker are much more convenient than the plan suggested in the July number, and have succeeded quite as well as any other plan could, I give the bee fraternity the benefit of my experience.

Bees wintered poorly on their summer stands, but in-door wintering succeeded well here the past winter. Bees had no fruit blossoms this spring, hence the first honey was gathered from white clover, which was abundant; but about the time it was fairly in bloom, it commenced to rain, and has kept it up almost daily ever since, and while I write, it is pouring down for the eighth hour in succession. There can be no surplus unless the weather becomes more dry, although there is an abundance of blossoms in early fall plants. J. E. REIHIE.

Lima, O., August 1st, 1875.

For the American Bee Journal.

Alsike Clover.

Alsike or hybrid clover, which takes its name from the Alsike district, near Stockholm, we have sowed and tested for five years, and have found it superior to red clover. The root is fibrous and the heads globular. It bears a greater resemblance to the white than to the red clover. The advantage it has over other varieties, are that the frost does not affect it, and consequently can be sown on damp ground with good results. I have sowed some seed in a wet place, and at the same time sowed some red clover seed. I had plenty of Alsike clover but not one plant of red clover. From four to five pounds of seed is required for an acre when sowed clear; and about half that amount when sown with timothy. This clover makes finer and better hay than either white or red clover, for the stalks are not as thick and woody as those of red clover. It will remain green until after harvest, when it will be as white as timothy, and not turn black like red clover, when cut as late as timothy is, after being left standing until harvest. It can also be threshed with timothy, the seed easily separated, and also imparts a flavor to threshed timothy.

When allowed to ripen its seed, it cannot be cut more than one season, as it bears its seed with the first blossom in each year; but if it is grown for a hay crop, it can be cut again in the fall, and will yield a nice lot of fine hay for calves and sheep. It yields about one-third more seed to the acre.

Among its disadvantages may be reckoned its rank growth, rendering it liable to be lodged. D. N. KERN.

Shimersville, Lehigh Co., Pa.

For the American Bee Journal.

My Bees.

Perhaps you would like to hear about my bees. I have had a good many ups and downs, especially *downs*, in the pursuit; enough to have discouraged me from any other pursuit almost. At present I am not keeping bees under the most favorable circumstances, as I am sixty-seven miles distant from them. "Ah, yes!" say you, "some one takes care of them for you." Nothing of the kind. I do all that is done with them myself, except sometimes taking them out or putting them in the cellar, and—but first let me tell you some of my previous experience. After keeping bees for some years, at first with box hives, afterward with a kind of frame hive, having bought several stocks at different times (I didn't buy my first swarm), and having obtained honey enough to use on the table at a cost of—well, not over a dollar a pound,—I finally adopted the regular Langstroth hive. I believe this was in 1870, some nine years after getting my first swarm, and the same year I got a honey extractor. I began the season of 1870 with eight colonies increased to nineteen, and took about 400 pounds of honey. This warmed up my zeal considerably. In the winter I lost three stocks, so I commenced the season of 1871 with 16 stocks, took 408 pounds of honey, and the season being favorable, I increased without much difficulty, till I reached 30 or 40, and I thought it would be a nice thing to have an even 50, so I reached *about* that number, for so many of them were weak, that I am not sure exactly how many it would be fair to call them. I fed them some quite late, too late for them to seal over, and they were put in the cellar with little anxiety as to the result. In the winter they became quite uneasy, and on February 11th I took out five hives, which flew a little, and I put them back. They continued to become more uneasy and to be affected with dysentery, and on February 22, I took them all out and found only 23 alive. They flew a little, but it was not warm enough for a general cleaning; and soon after, there came a cold storm with snow a foot deep, and by April 1st, I had only three stocks living, two of which I united, making a total of *two* left from the 45 or 50. It was some comfort to know that nearly every person lost heavily the same winter.

I bought five stocks in box hives early in April, one of which died, making six stocks to begin the season. These I increased to nineteen, and I think I took no honey. With the number of empty combs I had on hand, there was nothing to exult over in this increase, especially as the stocks were not in the best conditon as to strength.

December 7th I put the bees in the cellar and cellar and house were locked up for the winter, myself and family spending the winter in Cincinnati, from which place we did not return till late the following May. A neighbor who was an old bee-keeper, took out the bees on March 31, in bad condition, and when I reached home in May, I found three stocks left of the nineteen with which to commence the season of 1873. From this time forward my business kept me in Chicago, with only a few days through the summer to see my bees, and in 1873 I increased the three to eight in fair condition, and took perhaps 60 pounds of honey. These eight were put into the cellar on November 10th, and December 10th my wife gave the cellar a good airing, and then closed up the house to spend the winter in the city. March 30th, 1874, I went out and took them out of winter quarters, and was delighted to find them in splendid condition, the whole eight alive, and hardly a teacupful of dead bees in all. These eight I increased to 22, taking 390 pounds of honey. Of course they were increased by artificial swarming. I attributed the previous winter's success partly to their having been taken in earlier than ever before, so I decided to take them in still earlier, and went out for that purpose on October 29th. But the bees decided they would *not* be taken in, and whenever I attempted to take them *in* they bolted *out*. So, like many others I had to give up and let them have their way, and left my wife to get them in when the weather was cool enough for *them*. On November 19th, they had a good fly, and November 20th they were taken in by Mr. P., who is a farmer with at least the average knowledge of bees, and Jeff, who is one of the liveliest specimens of the African race that ever jumped, with considerably more than the average fear of bees. On December 12th my wife gave the cellar a good airing and then it was closed up for the winter.

Last winter will long be remembered as an intensely cold winter, and I felt some anxiety about the bees The last of February my wife went out and warmed up the house and cellar, finding the bees somewhat uneasy, but after being warmed up they become quiet. Then the house was again closed up, and they were left till April 6th, when Mr. P. and Jeff took them out. Three of the 22 had died, leaving 19, and I had high hopes of what I would do this summer. I thought it would be best to increase them to about 40, as I intended to get two stocks from Adam Grimm, and thereby improve my stock, as some of my bees were nearly black. On May 10th these two stocks were received from Mr. Grimm, and May 27th I went out and saw my bees for the first time this year. I didn't find them very strong. Two of them had gone up from queenlessness, so I had 19 to begin the season with. I did not find them covered up in the very best manner—in fact, one of them had the cover on in such a way that the bees did not use the bottom entrance at all, but came out and went in at the top of the hive. I still adhered to my resolution not to increase to more than 40, as I wanted to be sure to have all strong; and as this would only be about doubling them, I thought best to spend their extra strength in getting a crop of honey and getting a second story filled with combs on most of the hives. Two weeks later, June 10th, I went out again, and was disappointed in not finding much gain in strength. A few of the strongest had gained, the others had not. I had taken the queens from the Grimm hives on my first visit, and expected to have plenty of queen cells, but found very few, and those not nice large ones, so that I only got two or three queens in all from this first operation.

Again, June 25th, on going out, I found some of the weakest colonies with less numbers than when taken out of the cellar, but they appeared to be working quite lively, and prospects began to look a little brighter for the season. In all my experience, no season up to the last of June had ever been so unpropitious.

My next and last visit was July 7th, and as I shall not be able again to go out till late in August, my study was to leave the bees in such shape as not to do any swarming during my absence. One swarm had come out a few days before, but as the queen's wings were clipped, they went back and there was no danger of their going off to stay, till a *young* queen was able to go with them. I had only made seven new colonies, and five of these had already laying queens. By taking away all honey and leaving three or more empty frames in the center of each hive, I could feel pretty sure there would not be much swarming. The frames of brood and comb taken from the center of the hives could be used to strengthen the young colonies and to put in the upper stories. Some three or four had already second stories on them and from these I expected a good yield of honey, but from some of the weaker ones I expected very little. In order to get along as fast as possible, I had a hand ready to do the uncapping, and Jeff was instructed to whirl the extractor, leaving me to get the frames out of the hives and put them back. When all was extracted I had a sum total of about *fifteen pounds!*

I never saw anything like it before. The bees seemed to be working busily, and strong with brood, compared with their condition of two weeks previous, but they seemed to be using up in brood-rearing all the honey they got, and in the whole lot I found only two hives in which they had sealed up any honey. Some of them had brood in only three or four frames and these needed no weakening, but I inserted an empty comb between two of their combs containing brood, to hasten their multiplication. Those that were strong I left with from three to seven empty frames, so that they might busy themselves building comb rather than swarming. In a few of them I found preparations for swarming and in one or two even sealed queen cells. I made use of these in making two new swarms, which made my total number 28, which was a considerable falling off from my intended number, 40. Still, I would rather have 28 strong stocks than 40 weak ones, and I could not hope to make them very strong if I should increase more. I would rather not have weakened them so much, but I was obliged to do so or I might lose half of them by swarming. Having put everything in shape, I left home on Saturday, July 10th, for the city, hoping the bees might behave well and give me some honey when next I visited them in August. B. LUNDERER.

For the American Bee Journal.

A Rectification.

In THE AMERICAN BEE JOURNAL for August, Mr. D. D. Palmer, writing about our queen business, says that those who wish an extra queen or stock may depend upon getting such by inclosing an extra dollar.

From the above, many bee-keepers would infer that we ask an extra dollar to send good queens and good stocks. Such is not the case. No second-rate queen, to our knowledge, is sent from our apiary. All the queens, imported or home-bred, which seem to be unfit for use are immediately killed; for what will not content ourselves, cannot satisfy others.

During the visit of our friend D. D. Palmer, we had to fill among many others the order of a bee-keeper who had sent us $18.00 instead of $15.00, to get an extra populous stock. Of course we did our best to satisfy him. This case (which is a very rare one) was, we doubt not the cause of what D. D. Palmer has written about the extra dollar.

Since we speak of our business, we will ask our patrons, when ordering imported queens, to specify if they want light queens, or if they prefer above all, prolificness. CH. DADANT & SON.

Hamilton, Ill.

For the American Bee Journal.

Warsaw Horticultural Society.

The July meeting was held at the residence of Chas. Dadant & Son, the extensive Bee Culturists, near Hamilton, President Hammond in the Chair.

The usual papers of correspondence and reports of the Agricultural Department was distributed.

Apples of last year's growth, and Early Harvest of this year, was presented by Capt. Hathaway.

Samples of Mammoth Cluster Raspberries by Mr. Dennis.

Mr. Gregg was on the books for an Essay, which he confined mostly to the subject of small fruits. He said he had grown some very small, as his neighbors could testify. He spoke of raspberries and strawberries as a paying crop; that the labor incident to corn culture was all that was required to attain a yield of one hundred bushels to the acre at the second years' growth.

Mr. Dennis was called on, he said he had no speech to make, but he would stand a cross-examination on the subject. Some one said there was an attorney present. Squire Ruggles said it was usual to have a retainer for such services. Mr. Dennis said the Miami and Mammoth Cluster are the same berry. The Everbearing is not so desirable a berry not ripening together like the Mammoth Cluster. Mr. Dennis admitted a yield corresponding with Mr. Gregg's estimate; he thought enriching the ground was an advantage in some cases. Mr. Porter said some of his had been frozen out on low gravelly bottoms; thought hill land and clay soils best suited. The Mammoth Cluster had done well; did not succeed with the Everbearing. J. T. Johnson said this class of small fruits indigenous to the country; grew in worn-out fields, and seemed to do well, which would indicate that manure was unnecessary. Gregg said different varieties required different treatment; he also spoke of shortening in the cane when two and a half feet high, they would branch out and yield double the quantity of fruit. Hathaway favored a timbered soil rich in vegetable mold for raspberries.

J. T. Johnson spoke of Horticulture in relation to the farm. That too much general farming interfered with success in any of the small fruit productions for profit; that for profit they must be made more of a specialty. He said Peach trees in his locality were worse root-killed than on the prairie.

G. P. Walker instanced peach trees, within the influence of liquid barn yard manure, killed worse than other places.

An adjournment was had for dinner.

The Messrs. Dadants are among the

whole-souled generous humanitarians, which showed itself in the ample preparations made for the accommodations of the company present. A rural dinner with all the *et ceteras* tempted the most fastidious appetite. They all ate, and drank, and were satisfied; and, in the happiness of the occasion Mr. Dadant invited the company down to the City of Bees, where a miniature city, with its thousands of industrious workers, gather the wasting sweets from nature's unlimited fields. Box after box was opened, showing the colonies at work in the movable comb system. The queen, the royal personage of the colony, was taken in hand and exhibited, one of each kind, pure Italian, natives and hybrid. The Italian worker bees were handled with the naked hand to show their docility and gentle disposition. These bees are preferred to the native for their hardiness, industry, and capacity to store more honey than the native bee. The Messrs. Dadants have four or five hundred colonies, about 200 of which are kept at home, the others at places of convenience for pasturage. They also exhibited the boxes in which queens are imported from Italy, from whence they have regular semi-monthly importations. Making bee culture a speciality, as they do, they are supposed to be scientifically acquainted with all that pertains to the honey bee in its relations to the apiary.

It is inferred from what was learned, that 200 stand of bees will find subsistence four miles apart; at this rate 800 stands would find subsistence in one township, six miles square; and, at a moderate estimate, would store 24.000 pounds of honey annually. Nine tenths of this liberal provision in nature is lost, which the reflective reader will readily perceive might be secured for the comfort and happiness of the people; but some would say good-bye to the small fruits if so many bees were kept. To the objection that bees injure fruits, it is alleged that they are a positive benefit, and do not puncture fruit, nor use it till punctured by other insects, or use the wasting exudation.

The meeting was called to order for an afternoon session. Hathaway inquired what plants and flowers were best for bees. Dadant said Buckwheat, Alsike, and White Clover, the Linden, Mustard, and fruit blossoms generally. As to bees puncturing fruit, he said he had tempted them with grapes, which they never used unless first punctured.

Mr. Brown spoke of evergreens. Some was injured the past winter. Mr. Walker said we must bear in mind the two winters past were unusual. Pres. Hammond said the mission of the society was to stimulate Horticultural products among the people; that more evergreens should be planted for ornamentation. The Norway spruce was among the best; Arbor Vitæ, although ragged naturally, bears shearing, and is ornamental.

The discussion on grapes was introduced. The Clinton was represented as not doing well, while the Delaware was in the ascendant, diametrically opposite to former experience; other varieties generally doing well with varying experience. Owing to the wet season, weeds had got the ascendency. Squire Ruggles thought his grapes were doing well without cultivation, as he did not like work. Mr. Porter was much in the same fix; his were well fruited; had managed to mow the weeds down.

The limits assigned for our report prevent giving other interesting remarks on various subjects by the members present. A resolution of thanks was adopted, expressing the Society's obligations to the Messrs. Dadants for their courtesy, liberality, and marked hospitality to the company present.

On motion the meeting adjourned to meet at E. McCune's, at such time in August as may suit.

B. WHITAKER, *Secretary.*

For the American Bee Journal.

Frame Making.

One of the thorns in the path of the woman who undertakes to master the theory and practice of bee-keeping, is her lack of natural or acquired ability to drive a nail straight, to use a saw with safety to the implement, or a sharp knife with safety to herself. The gifted few of whom this may not be true, constitute so small a fractional part of woman kind that they may be regarded, properly, as exceptions proving the rule. And the woman who begins to keep bees without having her attention directed to this matter, is in danger of suffering from vexation of spirit, and wounded fingers, many times during the course of her novitiate.

It seems a simple and an easy thing to make a frame, for instance. A woman who is both ambitious and economical will decide that she can easily manage for herself that part of the business. But let my experience be a warning—a warning at least, to those who have not mastered the A B C of carpentry.

When I set about building frames, the first unpleasant discovery I made was that all the lumber on the premises consisted of very long and very wide boards, varying from an inch to an inch and a half in thickness. My second unpleasant discovery was that the family saw was a large, clumsy implement, whose coarse and rusty teeth were much in need of the saw-filer's dentistry, and whose general character, when brought to the test, proved to be both weak and perverse. That is, it

would (in my hands) bend nearly double, and it could not be induced to follow a straight line. Of the family hammer I need not speak, for the Danbury *News* man has described it exactly, and the description has been in all the papers. Somewhat against my inclination—for, when it is quite as convenient, I like to be independent—I was forced to appeal to Richard for counsel and aid.

The counsel I received was this—to employ a carpenter. That was what he did, whenever he had anything to build of more importance than a hen-coop. It was folly to waste time in trying to do poorly what it was another man's business to do well.

I rejected the counsel on the spot, informing my adviser that I had too much consideration for my bees to make them pay for frames. I should, doubtless find trouble enough in keeping the credit and debtor sides of their account balanced for them, without indulging in such wasteful extravagance. If he would but be good enough to saw off some pieces of board, of manageable size, I should need no further help.

"But you will need to buy a finer saw, and a smaller and better hammer," said Richard, as he proceeded to do my bidding.

"Don't say that I will need to buy them! Don't you know that you need them! Do you suppose that I mean to charge my bees with saws and hammers, for lack of which you are actually suffering!"

Richard whistled—meaning thereby to express, as to the suffering, an incredulity too deep for utterance. But the next day he repented, and brought me the neatest of little saws and the prettiest of little hammers. I was wise enough to remind him, after expressing due satisfaction, that the saw and the hammer were *his*—"only as you are a little careless about such things, Richard, I will take care of them for you, and use them occasionally, to pay for the trouble." I have yet to learn that Richard has used either hammer or saw, save in my service.

After various attempts at shaving down and planing down—at dividing with the saw and splitting with the carving-knife, my pieces of inch board, I gave it up, and instituted another for better material. The lid of a flour-barrel tempted me; and, if I remember rightly, I succeeded in making one frame therefrom. Whoever does better than that must have patience and skill, of quality greatly superior to mine. Finally, I found an extra fine packing-box, made of good pine boards of just the right thickness. I troubled neither myself nor anybody else with idle questions as to whether or no the box might be useful for other purposes. To pull it to pieces, with the aid of chisel and hatchet, was an easy and a pleasant task.

By this time I had learned wisdom. I had added to my hammer and saw another necessary implement — a lead pencil. With the help of this, I ruled my boards into narrow strips, marked off the appropriate lengths, and bided by time.

The time in question was dinner-time. It happened, strangely enough, that though the summons to dinner was given that day in due season, the dinner was late. Richard, seeing that there was a mistake somewhere, and that an interval of waiting was before him, began to look about him for the last newspaper. Skillfully intercepting the paper, I handed him the saw instead, and pointed to my pile of penciled boards.

"While waiting, won't you please saw these strips? I know that you can do it better than I, and with less risk to the saw."

Richard accepted the saw good-naturedly enough, only shrugging his shoulders a little when Nellie laughingly reminded him how literally he was obeying Longfellow's injunction, to

"Learn to labor and to *wait*."

But for my own part, I am not sure but I was a little ashamed of my strategy. With some remorse I remembered how faithfully I had promised myself, long before, that in no event should my bees be allowed to trouble, either directly or indirectly, anybody but myself. I re-assured myself, however, by reflecting that the dinner was a little better worth waiting for than usual that day—a fact that Richard would be sure to appreciate.

I had said to myself that I should have no trouble in putting the pieces together. I could do *this* easy enough, surely. After dinner I proceeded to do it. But to my dismay, I found that the nails *would* split the ends of the side pieces, or they *would* go in obliquely. And, in fact, to simply hold the pieces together, at right angles with each other, was a serious matter over which I sighed so often, and so deeply, that Nellie—after advising me to hunt up an old geometry and refresh a little my knowledge of right angles—finally took pity and came to my assistance.

She held the pieces while I hammered, and the result was an improvement on my previous work. True, our first *square* frame was rather a *shumboid*, and hung in a tipsy, one-sided style, quite distressing to a person of regular habits and correct taste to look upon; but as we progressed we succeeded better. I must not omit to mention of the guide strips, for the putting in of these pleasantly relieved the monotony of the work. I tried sawing them out, whittling them out, and was not very successful either way. I tried to fasten them in with tacks, and failed completely. Then I tried glue, and finally I ambitiously attempted the sawing of a groove, into which the strips should exactly fit. But it didn't fit, and I could

only remedy the case with glue and let it go. By the time that, with Nellie's help, I had made fifteen frames, after this fashion, I was nearly ready to conclude that I had mistaken my vocation—that I was not cut out for a bee-keeper.

And yet, the frames were not *all* so very bad. But, estimating the value of our time very moderately indeed, they had cost more than I could afford to pay. The happy discovery that frames might be purchased either complete or in such shape as to be easily put together, came in time to relieve our perplexity and prevent an ignoble "giving up of the situation."

Nellie insists that the new frames are not faultless—that while, for certain reasons, she prefers them to our old frames, for certain other reasons she prefers the latter. Nevertheless, she agrees with me that it is hardly worth our while to go into the business of frame-making.

Neither can I advise any woman to do so who has not mechanical genius and plenty of good tools; or who has not a skillful carpenter—one who will work for nothing and board himself—at her command. Under any other circumstances, frame-making is, for a woman, neither interesting nor remunerative. Let her spare her gentle fingers for finer uses—as the sewing on of buttons—and buy her frames.

CYULA LINSWIK.

For the American Bee Journal.

Wonderful Bees.—Their Habits, etc.

1st. Every hive of bees will give in honey a "profit of $20" when sold at wholesale prices.

2nd. The honey passes through a "churning process" as the bees are flying from the flowers to the hive.

3rd. By this operation of "churning" honey is converted into "butter," which is the "pure white wax."

4th. What remains after the "butter" is secured is "buttermilk," but vulgar people call it honey.

5th. The "buttermilk" or honey is then put into cells and the longer it remains there the sweeter it gets.

6th. The honey extracts from "the comb" the virtues and sweetness it posesses when first taken from the flowers.

7th. The medical virtues of honey that has been in the comb for three years time, are three times that of honey only one year old.

8th. The body of the bee is composed of "three sections or bands."

9th. Underneath "the two front bands" there is a small hole on each side, through which the "butter" comes.

10th. Pollen is of more value to bees than honey, as it is their "principal" food during winter.

11th. The young bees live wholly on "pollen" until old enough to work.

12th. Bees obtain the pollen from the "petals" of flowers.

13th. The bee unloads the pollen first from one leg and then from the other as herein set forth.

14th. Bees hatch out a brood "every nine days."

15th. There are from "2,000 to 5,000" bees in each brood.

16th. The first brood that hatches in the spring is from "eggs laid late in the fall."

17th. Bees have the power of keeping the eggs from hatching, from fall to spring, and until they can gather "new pollen."

18th. When the hive becomes crowded a portion of the bees are "driven out," and this is "swarming."

19th. The drone has no sting, in which respect it is unlike "other male bees."

20th. Both "queen-cells" and drone-cells are "always made on the outer edge of the comb."

21st. The number of "queen-cells" in a hive is either three or five.

22d. The drones are "killed in the fall," and the "exact time" depends upon the "character of the winter" we are to have."

The foregoing ideas and statements are obtained from a two column article on pages 184 and 185 of THE AMERICAN BEE JOURNAL. They are not only *novel* but evidently *original* with the writer of the communication in question. We justify the publisher for not throwing the article into the waste basket. Had he done so the writer of the article referred to would have been as "mad as a wet hen," and, without a doubt, would have withdrawn his subscription! Besides, hosts of readers of the JOURNAL would have been deprived of "lots of fun," which has been worth more than the *space* the article occupies. But to make the "statements" more complete it really seems as though the following should be added:

23rd. The drones are working bees that have lost their *stings* and are suffering from *acute inflammation!!*

But we will now be serious for a few moments, and say, that, as we do not believe there is a solitary reader of THE AMERICAN BEE JOURNAL that endorses a single idea or statement in the list we have given, we will conclude with a few words of advice to the writer, whom we have tried fairly and faithfully to represent:

The very best thing for you to do is to procure a good reliable work on bees and then study the subject. Langstroth's is the best book we know of, and we think it will convince you that you know but very little about the Honey Bee, either its habits or instincts. Send $2.20 to the pub-

lisher of THE JOURNAL and he will gladly mail you the book, and it may prove to be the best investment you ever made.

M. M. BALDRIDGE.

St. Charles, Illinois.

My Experience with Italians.

I regret that I have so little new experience to add to your interesting columns. To have contributed anything of value to the general fund of knowledge, I should have kept a journal of my summer and spring work; a plan which every one who has sufficient leisure should adopt.

My 30 colonies were carried to their winter house about the 28th of November, and were removed again to their summer stands in the last week of March. The winter here, as elsewhere, was unusually severe, but they maintained the temperature at all times above freezing, except for two days, when it was found necessary to assist them by heated plates of old iron carried in twice a day. Fewer bees left the hive from distended abdomens than usual. This I attribute to the plan of giving no upward ventilation. The caps were removed, the summer entrances left wide open, and the quilts closely tucked over the frames. Heretofore I have given some upward ventilation, without as good results.

I placed one strong colony in a hot bed pit, which is mostly under ground, four feet deep, six wide, and twelve long. Although it wintered well, and came out strong and prosperous early in March, (at which time I was obliged to use the bed for early vegetables,) I cannot say the result was equal to my expectations, for whenever the pit was heated up enough to tempt the bees to make a purifying flight, they lingered so long in the warm rays of the sun, on the sashes, that they became chilled and lost, before darkness drove them back again to the hive.

I shall make another trial this winter, and add a muslin curtain to the underside of the sashes, according to the plan recommended by one of your correspondents. I shall also during *most* of the winter cover the sashes with matting to prevent too frequent flights.

I am glad to learn that Mr. Dadant proposes to procure for us the chromos issued by the Milanese society. He is entitled to our thanks for his disinterestedness in distributing them at cost. This reminds us of Mr. J. S. Coe's remark that an earnest progressive bee-keeper will, to his *utmost* power, forward the best interests of the fraternity. It has always seemed to me that the bee-fraternity constituted the fourth learned profession, and that all its members were, as in the other professions, entitled by courtesy, and the laws of brotherhood, to the best ideas and results of the researches of each one of its members; and that any one unwilling to acknowledge this, had mistaken his calling.

My queen of Dadant's importation, proved prolific; her drones, and workers, her queens and their progeny also proved dark enough to satisfy the most fastidious lover of the dark Italian. There was no trace of Albinoism. As for myself I must confess to the weakness of wanting my Italians with the three bands of uniform bright golden yellow, and so distinct as to be seen without fully distending the abdomen when the third ring seems to be a reflection of the second. But if the coming bee must be so dark as to be hardly distinguished from hybrids, in order to be most prolific and endowed with the highest and best instincts for gathering honey early and late and storing in boxes—why then I suppose I must sacrifice beauty to utility.

Take it on the whole, the season has been very poor so far, but enough stores have been gathered to induce a fair amount of swarming, and the colonies are now strong so that we *expect* during August and September, *our* usual honey months, to have an abundant harvest.

New Bedford, Mass. EDW. P. ABBE.

For the American Bee Journal.

Amende Honorable.—Errata.

Since my article on honey adulteration appeared in THE AMERICAN BEE JOURNAL, for August, I have received a note from Mr. Perrine in which he desires me to say that the "statement" respecting Mrs. Spaids was not made at his "suggestion." He says he regrets the intimation exceedingly, as he "hopes there is now no unpleasant feeling existing between us."

I give place to the above with pleasure, and will forthwith say that Mr. Perrine knew nothing about the preparation of the article in question, and that, in fact, we have not seen nor communicated with each other for the past six months; also, that no one, save the writer, is responsible for the statements and intimations found therein.

In justice to all, permit me to add that I have no desire to convey the idea that Mr. Perrine is the only first-class honey dealer in Chicago. Special mention was made of Mr. P. because it could not very well be avoided. Adam Kernberger, successor of Baumeister & Co., is likewise a first-class Chicago dealer in honey. I have frequently examined samples of the honey put up by Mr. K. and have always found them to be A No. 1. At present his trade is not so extensive as Perrine's but it is having a fine healthy growth. I judge him to be a straightforward business man

and that he will carry out as near as possible whatever he promises.

In my article on page 181, 4th line from the top, for "far better than the crude honey," insert "at least as good as the crude honey;" 19th line from bottom, same page, for "recurring" read "securing," and in the 8th line the words "may have been" for "might be," which will much better convey the meaning intended.

M. M. BALDRIDGE.

St. Charles, Illinois.

For the American Bee Journal.

Bees in Southern California.

A correspondent in San Diego county, California, says in the July issue of THE AMERICAN BEE JOURNAL, that bees in Harbison hives can be bought in Los Angeles county for $2.50 per colony; and, that the honey of said county is not salable "since San Diego honey came into market."

I spent the month of April last in Los Angeles county, visiting the "bee ranches," and collecting *facts* respecting bee-culture in Southern California, and can safely say that your correspondent is mistaken in both of the above statements.

During my visit, I found no bees for sale in Los Angeles county, in any kind of hive, or box, for $2.50 per colony. A few stocks of black bees, in box-hives, could be picked up now and then for $4 or $5 *in gold*, per colony. In fact, there were not many bees for sale at any price, as the swarming season and the honey harvest were near at hand. I found one man in an almost inaccessible canon, in great need of money, and he would sell for cash his apiary of 50 stocks for $3.50 each. These were black and hybrid bees, in the cheapest kind of box-hive. As he lived about 20 miles from "no where," it would cost about 50 cents more per colony to move them to some place where a white man would be willing to live. But the general price for black or hybrid bees ranged from $5 to $10 per colony, depending on the kind of hive they were in. I found another man who would sell *swarms* for $5 each in case the purchaser would furnish empty hives. Italian bees ranged from $15 to $25 per colony. While I was there, Mr. Harbison sold 50 stocks, that he called Italians, for $15 each, to a resident of Los Angeles city. As the purchaser had to pay the freight on them by steamer from San Diego to San Pedro, and thence by lighter and rail to Los Angeles, besides other incidental expenses, these bees must have cost him about $20 *in gold* per stock. As yet there are not many *pure* Italian bees in Los Angeles county.

The hives in use in Los Angeles county consist chiefly of box, Harbison, and Langstroth hives. Nearly all the new hives are the Langstroth. As made there they are more simple and less expensive than the Harbison, and are more generally preferred. I found only two or three parties who were making Harbison hives, and they will change to the Langstroth as soon as they get a little more experience in the management of bees.

The choicest honey in Los Angeles and San Diego counties is gathered mainly from the white sage, button sage and sumac, and, of course, does not vary materially in quality. In fact, all the mountain honey of San Diego, Los Angeles and San Bernardino counties is very similar, and it is simply nonsense for the bee-raisers of these three counties to be continually praising the good quality of the honey of their own county and speaking disparagingly of the honey in the adjoining counties. It indicates ignorance, or a contemptible jealousy, and is disgusting to the investigator who knows better.

A large per centage of the *valley* honey of Los Angeles county is of *poor* quality, but it is good enough for raising bees simply. This honey should never be sent away to market, as it will injure the general reputation of the Los Angeles county honey. M. M. BALDRIDGE.

St. Charles, Ill., July 26, 1875.

For the American Bee Journal.

Cultivation of Honey.

The article on this subject, by Mr. M. Baldridge, in THE AMERICAN BEE JOURNAL, for August, cannot remain without answer. The subject, in spite of Mr. Baldridge, is far from being exhausted, for it shows another side of the question, and not its less interesting side at that.

I am not, and have never been a partizan of Mr. H. A. King; yet I find that he has acted right in pointing out the ways and practices of the honey dealers.

Mr. Baldridge says: "The parties who make the handling (*i. e., the adulterating*) of honey their specialty, know better what their patrons desire than bee-keepers, and there is not the least danger of their "cutting their own throat" by selling a mixture that will ruin their business. It seems, also, that it is for their interest to sell an article that will give the best possible satisfaction. I have often seen Perrine's honey. I know it gives better satisfaction than the crude honey sold by the honey raisers. His honey is milder in flavor."

Now let us suppose that Mr. Baldridge sends me ten dollars to get an imported queen, and that, knowing the predilection of Mr. Baldridge for the yellowest queen, I send him a yellow queen of my own raising, instead of one of those imported,

which are generally darker than the home-bred queens; no doubt Mr. Baldridge would be very well satisfied with my bogus imported queen, and there would be no danger of "cutting my own throat." But does Mr. Baldridge think that it would not be cheating him by selling for ten dollars, under false pretense, a queen worth half that price.

The selling of three-fourths syrup mixed with one-fourth honey, which mixture is worth eight or nine cents, as pure honey, worth fifteen cents, is therefore a dishonest practice, whatever any American Baldridge can say in behalf of it.

Now another side of the question. For a great many years the American honey dealers have mixed honey with some other sweets. As they need honey for these mixture, they buy early in the season all the honey they need. Let us suppose that a honey dealer buys one hundred thousand pounds of honey; he mixes it with three hundred thousand pounds of some kind of syrup, molasses or glucose, and makes four hundred thousand pounds. Now these three hundred thousand pounds of created honey come in competition with the pure honey remaining in the hands of the producers, and hinders or prevents its sale, the more so because the honey dealer has a margin of seven or eight cents per pound to help its sale.

Thus the honey dealers glut the market. Woe to the poor bee keeper who, after Christmas has some pure honey on hand! he is sure of being a loser; for the profit of the honey adulterers always incite them to produce more than the wants of the country.

Mr. Baldridge continues his argumentation, saying that, as the consumers want liquid honey, and as the pure honey will candy, the best friends of the bee-keeper will say that he has sugared his honey.

How is it that in this country, *and in this country only*, candied honey is sold as adulterated, and liquid honey is sold as pure? This belief comes certainly from the honey dealers who have, year after year, infused these erroneous ideas into the minds of American people. Therefore it was not enough for them to sell adulterated honey, it was necessary also to accuse the honest bee-keeper of selling a falsified article. After cheating the consumer, they accuse the honest men of cheating.

Now, adds Mr. B., "no one can properly censure a dealer who caters to the wishes of his patrons, provided he uses nothing that injures their health." Is not such a practice cheating? In France—in immoral France as our friend Dr. Rush would say—if any one is convicted of having mixed other substances with an article sold as pure, even when these substances are unobnoxious, the product is destroyed, and the adulterator heavily fined.

I have seen 40 barrels of wine poured in the street gutter because the dealer had mixed with his wine apple juice, sugar and tartaric acid, to increase its quantity; yet this wine was very good—good for health also. But the fault was, it was sold as pure wine, and the dealer was cheating the public and doing great damage to the wine producers.

Is not that the case with our honey dealers? I suppose that all the bee-keepers of America, Mr. B. not excepted, will find that the French law is right, for there are not two morals, one for old Europe and another for this side of the Atlantic.

Let us now examine the question from another stand point.

Everybody knows that honey is used in medicine for its laxative properties. It is also used for coughs, sore throat, hemorrhage, etc. Honey is emollient, sugar is tonic. Now all the druggists who buy their honey from the honey dealers, are cheated; they cheat their customers without knowing it, and they endanger their health and their lives by selling a tonic, (sugar syrup), instead of a laxative and emollient (honey), as prescribed by the doctors.

But who of our honey dealers has ever thought of that? To fill their pockets by satisfying their patrons is not enough!

Now for the remedy.

I have seen in Europe, honey from Cuba, from Chili, from Germany, from Italy, from France, all was granulated. I have kept bees in this country for 12 years, and always my honey has granulated. All the bee-keepers of this country acknowledge now that all pure honey granulates sooner or later. That of Mr. Baldridge does not always granulate; he could perhaps give us the reason why; but I do not ask for such a confession. The candying of honey is therefore, as I have said in my first article on this topic, the best test of its purity. Let us all have this fact known everywhere; spread this knowledge in all the bee and agricultural papers; let the granger and bee-keeper send circulars at that effect. Yet as this knowledge would be slow in reaching all the consumers, let us all try another means of avenging our honor and of breaking down this dishonest traffic.

Let every bee-keeper having some extracted honey to sell, make two qualities, one pure at full price, another adulterated (or dealer honey,) at discount.

We can figure the cost of this article, making it even better than the best dealer honey in the market.

100 lbs, white sugar at 11 cents	$11.00
50 lbs, honey at 13 cents	6.50
50 lbs, water	
200 lbs.	Cost, $17.50

Or 8¾ cents a pound.

I figure the honey at 13 cents; Mr. A.

Grimm sold his last year at 12 cents; and if sometime the honey dealers pay 15 cents, they bring in account so much leakage, that the net price rarely attains 13 cents.

We put the water in a boiler, and stir the sugar and the honey in on a slow fire, and it is done.

We can offer this dealer honey at 9 cents, under labels indicating that it is dealer honey, *i. e.*, honey prepared in the dealers' fashion; adding that such honey does not granulate. We can even put the recipe on our labels. If I could cause a great many bee-keepers to offer this stuff to all the grocers of their cities, honey dealers would be forced to change their practice, or quit the business.

I for one, will try this method; who will do the same? CH. DADANT.

Hamilton, Ill., August 5, 1875.

For the American Bee Journal.

My First Italian Swarm.

Like many others, who have interested themselves with the honey-bee for profit on the singular interest and fascination attached thereto, I have indulged in the fancy of keeping bees. In the incipiency of my operations, natives were my pleasure, but with the spread of books, papers, improved hives and general progress, blacks did not suffice.

A costly and beautiful colony of *pure* Italians was obtained, and the first season sedulously watched, divided after the mode, and otherwise treated with the utmost concern, and I had the satisfaction of increase and success. The hive in which the original queen reigned, had been amply protected through the winter, and with the opening of spring, the stock was very promising.

I had delayed until May was far advanced for a friend to come and assist in making a division; but the weather not being favorable, the work was delayed until further delay was unadvisable, and I determined to swarm the bees alone the first suitable time. A fine day appeared, and noon was chosen for the anticipated work, but the clock had scarcely ceased striking twelve, when the cry of "yellow bees swarming" was raised. The day was bright and lovely, and my first impulse was to seize a looking-glass and bring it to bear on the issuing swarm. At first a large oak was threatened, but the glass was too much for the bees, then a small box elder, a peach tree, and at last they settled on some low shrubbery beneath.

A hive had been duly prepared for an emergency, with full frames of comb, partly containing cells of unsealed honey and dripping to the bottom board. I gently raised the spray on which the bees had clustered, spread a sheet very nicely, placed the hive in position, shook the bees down and directed them to the entrance. All working well, but the most labored plans are sometimes attended with difficulty. Other bees, attracted by the honey, collected about the hive in countless numbers, and I feared would take possession, many of them going in with the swarm; yet singularly enough, the swarms, at the same time, fighting and vigorously disputing the entrance. I, being satisfied that the queen and most of the swarm were inside, gradually closed the hive, showered the outsiders with a fine rose sprinkler, shifted the hive to a new place, spread a sheet over it, which I completely saturated with cold water, and with closed entrance, moved the hive to a cool shady stand and then opened the entrance gradually, and soon had the satisfaction of seeing the inmates taking good care of themselves and their new home, expelling the intruders and keeping them at a respectful distance, myself not escaping their regard.

Another inspection disclosed the secret of the fighting propensity of the swarm. My *elegant Italians had become splendid hybrids!* ALSIKE.

For the American Bee Journal.

From "Amateur."

DEAR JOURNAL: You need not apprehend any danger of the market being overstocked with honey from California, as there will not be more than a half crop here this year. I have done as well or better than any other apiarian in Los Angeles, Cal., and I have only taken up to this date (Aug. 1st,) 15,400 lbs. from my apiary, a little over 100 lbs. per hive. I hope to take a good deal more this fall from honey-dew. I understand that Mr. Harbison will make about a half crop. There are a great many apiarians here who know but little of the "science of bee-keeping," and consequently they fail to secure much surplus in a poor season. We need more scientific bee-men here. The greatest resource of Southern California is its honey-producing interests, and this has but just commenced its development. Although there are but few locations not taken up, yet those already taken up need scientific apiarians to improve them, and bring this profession up to the standard.

There is but little difference in Santa Barbara, Los Angeles or San Diego counties, your correspondent from San Bernardino to the contrary notwithstanding. He is very unjust in saying that "Los Angeles honey is not worth much on the market since San Diego honey came into market." San Diego produces more nice honey than any other county, owing to the fact that Mr. Harbison and several other scientific bee-men, have been there several years, and elevated the business

to a much higher standard than it has been in this and other counties. But we have turned the whole business "up side down" in the south end of this country, this season; and another season we will show the people of Southern California a thing or two about bees.

Much has been said in THE AMERICAN JOURNAL about the standard hive. This is all nonsense. A hive that is just right for a cold climate is *not* the hive for a warm climate. Mr. Harbison invented his great "California hive" upon his experience in Pennsylvania, and in shape it is just like the American, which is good for a cold country; but my experience in transferring a great many bees from the Harbison hives that had been occupied by bees for several years, shows that the combs above the cross bar in frames, or the upper six inches of the comb, had never been occupied by brood, or in very few cases; the brood for the whole time having been raised in the lower 8 inches. There is but little need of honey in the hive for bees to winter on here, and consequently *no* need for a deep frame. 8 or 9 inches deep I think is plenty as the bees have a shorter distance to travel to reach the surplus honey receptacle. I have been trying both the long hive, and the two story hive, and my experience this season in this climate teaches me that the greater amount of honey can be procured by using a hive 12½ inches wide, with 9 frames below, and 8 above. My frames are 15x9½ inches. By using only 8 frames to 12½ inches, gives room for the bees to lengthen the cells, thereby causing the combs to hold much more honey. We extract every week and take about 30 lbs. each time. This season has not been a good one.

Probably the readers of THE JOURNAL would like to know Amateur's plan for dividing. It is this:

Have the bees *very strong* by time for surplus honey. And when there are an abundance of flowers, and bees are gathering large quantities of honey—have queen-cells enough for all the new swarms you want—when queen-cells are ready to transfer, remove the old queen with three combs and what bees cling to them from each of your strong stocks into a new hive and put on a new stand. As these nuclei have a laying queen and a good many bees, they will soon need empty frames which you will add as needed. These nuclei will need no further help to make good strong colonies by the close of season. The next day after removing the old queen, you will introduce a queen-cell into each hive and in a short time the old swarm will have a new queen. The advantage of removing the old queen from the hive, is that the bees will gather and store about double the amount of honey while rearing a queen, than when they have a laying queen. By emptying with the extractor, the young queen will have plenty of room to deposit eggs, and will soon have the hive filled when the same process can be repeated. I think this a very valuable plan because the greatest yield of honey can be procured from a queenless colony—as long at there are plenty of workers.

Well satisfied with past success and full of hope for the future, I am, as ever, an

AMATEUR.

Westminster, Cal.

For the American Bee Journal.

Feed the Bees.

Bees in some districts of the country will have to be fed or they will strave. I give the readers of THE JOURNAL my plan of feeding, which they may follow if they choose. Take clarified sugar, (Coffee A will answer), add sufficient soft water to make a syrup about the consistency of extracted honey; bring to a boil; when cool it is ready to feed. If regular bee feeders are not at hand, glass tumblers will answer. Fill nearly full of syrup; tie a piece of muslin over the mouth of the tumbler; turn bottom up; place them on the frame immediately over the bees, and they will soon store the syrup in the combs; and cap it over. The bees should be fed as rapidly as possible, until they have enough to winter. The best time to feed is just at sunset, to prevent robbing. If tumblers are used, place on as many as possible, so as to get through feeding in a short time. If they are fed sparingly they will consume much more. See that the tumblers, or feed, is covered perfectly tight, so that the robbers will not discover it. Weak colonies should have the entrance closed, so that but one or two bees can pass it at one time, to prevent robbing. The latter part of September and first part of October is the proper time to feed, for wintering. It is a shame to let bees starve when they are so easily and quickly fed.

A. BENEDICT.

Bennington, O.

For the American Bee Journal.

Exchanging Brood Combs.

It was formerly my custom, when extracting honey, to exchange half the combs of every hive with the same number in the next hive opened. This was done merely for convenience, and in order to save time and get each hive closed as soon as possible. Observation convinced me that the bees removed nearly or quite all of the eggs from the strange combs, and sometimes they destroyed part of the very young larvæ. In an apiary of forty hives in which the combs

were exchanged, two and three times there must have been a loss of several swarms. The destruction of the larvæ was a much greater loss than the destruction of the eggs, because the queen, having plenty of room, could supply the empty combs with eggs very soon after they were extracted. But the eggs laid after exchanging combs would not hatch so soon as those destroyed would have done, and a loss of time would result; and in the extracting season, that means loss of bees.

In extracting I now have two hives open at once in order to work fast and return each comb to its proper hive, thus: Hive No. 1 is opened and half the combs taken to the extractor, the comb carrier then opens hive No. 2 and by the time he gets to the extractor with that lot the first combs are empty and ready to be exchanged for the full ones in No. 1. One more trip to No. 2, then No. 1 is closed and No. 3 opened.

A piece of cotton cloth is used to cover the hive while the combs are being extracted. One man to uncap and extract will keep two busy carrying combs, if the combs are straight and in good order. It facilitates matters somewhat to have the extractor to run with a treadle instead of crank handle. W. C. P.

August, 1875.

Notes AND Queries

ANSWERS BY MRS. TUPPER.

Please tell your readers the best method of securing straight worker surplus comb. A. A.

We have ourselves had no trouble in securing straight combs, invariably, so do not, perhaps, appreciate the trouble some have experienced. We are careful, when colonies are building comb, to examine often, and if they are starting in a wrong direction, to straighten at once. Of late, since we have a good supply on hand, we always put an empty frame between two straight worker combs when bees are building, and they then cannot, if they wish, build crooked.

Bees only build drone combs (as a rule we mean) about swarming time, or when honey is very abundant, and at these times we would try and keep them supplied with comb so they shall build none, leaving comb-building to be done later in the season, when honey is less plenty. We can generally secure some comb almost any time by removing a comb from the middle of a strong colony and putting a empty frame there. Bees "abhor a vacuum," and work with a will to fill it. We are very sanguine that the comb foundations are going to prove a great success, and aid those beginning in the business to get straight combs fast. A device just patented in Vinton, Iowa, makes the building of straight combs sure, when the patented frame is used. We are expecting to see this frame advertised and used with profit.

I would like to hear through the columns of THE AMERICAN BEE JOURNAL when is the best time to move bees a short distance. I have one colony of bees that is very strong, but do not seem to be doing anything at all. Can you tell me what is the matter? Do you think it best to feed at this season of the year? My bees are getting plenty of pollen, but not much honey. I had four colonies of Italians this spring and have increased to ten, but I have not a taste of honey yet.

Would you recommend dividing if you have no queen on hand? I tried one this spring; it is doing fully as well as those that swarmed naturally. I do not know whether the plan would do to rely on or not. The keeping of bees is a new thing to me. I got my start from Mr. Quinby. I am very sorry to hear through the columns of THE JOURNAL of his death. I am under obligations to him for what little knowledge of bee culture I have.

Can you tell me the reason of my bees leaving the hive after being hived? I have never had one to stay the first time; my first swarm left the hive and went to the woods. I found them and brought them back. This thing of natural swarming is discouraging to me. I want to divide after this, if I can. B. LINGLE.

Paoli, Indiana.

The best time to move bees a short distance is after the working season is over, or before it commences, that is, if by a "short distance" you mean less than half a mile, further than that you can move at one time as well as another. When moved a short distance, many of the old bees will return to the old spot—sometimes enough of them to weaken the colony seriously.

We feed at any season of the year when the bees are not gathering enough to keep them breeding freely.

By your own account your bees must have gathered much honey, even if you "have not had a taste yet." They cannot increase from four to ten colonies in two

months without using a large amount of honey in rearing brood and filling their hives. If the whole ten fill up well with bees and stores for winter, you ought to feel you have done well.

We would divide, even if we had no queens on hand, though it is a great help to them to be saved the time wasted in queen rearing.

There are various causes for bees leaving their hives after swarming. The best way to prevent it, is always to give them a comb with young brood from another hive in the new one. It is better in every way to divide than to trust to natural swarming.

As I have been keeping bees but about one year, I wish to ask a few questions relative to the conduct of some of my pets. On May 6th had a swarm, hived them, and they appeared to do well; in fact, did very well for a time. On July 8th, I looked into the hive and found it queenless, without queen-cells, and, strangest of all, the unsealed brood dead, but the sealed alive. I could discover no odor arising from the dead brood. What was the matter?

About the middle of May, in passing a hive about 7 A. M., I noticed about a pint of dead and dying bees, and they were still bringing them out. Among them I found a queen; I think she belonged to that hive, and if so, was raised last year. I searched the hive, but could find no queen, but found new brood in all stages. I have extracted 85 lbs. and took 35 lbs. box honey, which sold readily at 20 and 25 cents per pound. I commenced this spring with 8 stocks, one of which was weak and queenless. I have had but one swarm and have made but one artificially. They are gathering but little now. I have had but one colony to work in boxes. I shall be glad to have answers through THE JOURNAL. I, with all others engaged in progressive bee culture, deeply feel and deplore our loss in the death of Mr. Quinby.

Nashville, Tenn. J. G. STREET.

We judge that your bees had not enough honey, and could not nourish the brood. It looks to us as if the queen had left with a few of her subjects, discouraged at the want of provender.

Strange as it may seem, bees *do* suffer sometimes in June and July for want of honey. Probably a few pounds of sugar fed to them would have saved them.

We can give no other reason for the condition of the other hive, found in May than this—of poverty. If they had plenty of honey, we *could* see no reason for the state you found them in.

Complaints of the poor season come from many quarters.

Please inform me through your valuable BEE JOURNAL the object of having a hole on each side of Langstroth's hive? Should they be open or shut while the bees are working?

Do bees fill the top or bottom with honey first?

How many pounds can I take from a hive in a year?

Can you change the boxes more than once?

Do you prefer large or small boxes?

Will this summer's bees swarm this fall? C. A. J.

We do not think there is any use for the holes you speak of, except to give ventilation when bees are being moved some distance. They should be shut always when the bees are at work.

Bees, as a rule, fill the top of the hive first. They seem disposed to put their choicest honey as far from the entrance as possible.

No rule can be given as to how houm honey can be taken in boxes in a season. We have taken nearly 200 lbs. of box honey from one hive, but then again we have many times failed to get a pound stored in boxes.

Small boxes sell the best; but on the whole we think the bees work better in larger ones. Cases with small frames in them are better than boxes.

Bees do sometimes swarm as late as last of August, but not usually.

I have been troubled several seasons with queens deserting their hives; so much so that I have found the work of Italianizing my apiary greatly retarded. Full blood Italians have worked well for a while and suddenly disappeared; half breeds the same, but I do not recollect of any black ones doing so. Sometimes they take a few workers with them, but in no case a regular swarm. In every case their is plenty of empty comb, brood, and honey, and often the deserted colony raises a crop of queen cells, and the queens, when picked up in different parts of the apiary and put into nuclei or queenless colonies, often do fair, not first-rate. In some cases there is a want of bee bread, but in June I think that need not matter. What is the cause? A. W.

We can give no idea of the cause of this desertion of the hive by the queens. We

have heard similar complaints from other causes. In some cases the queens have disappeared without any cause; and, it would seem, have died.

If any reader has any ideas upon this matter, we would be glad to hear from them.

We have had more queens die this season than in all our former experience, but have no idea of the cause.

What am I to do with my bees—and what will *they* do all winter? This is the condition of things. Hives full of bees, combs full of brood, but *no* honey anywhere in the hives. Have not had a pound of surplus. Had three hives in spring—have now thirteen—and all doing well, except that they have nothing to live on. E. E.

Benton Co., Iowa.

You are one of the many who do not realize that bees are fed and raised on honey. You complain that there is no honey, has been none, and yet many hundred pounds *must* have been gathered by your bees to fill hives and stock them. An increase from three to thirteen is enormous for one season, and your locality must have been much better for honey than any other we hear from, to secure it. You need not expect surplus honey, but if your bees are as strong as you think, they will gather no doubt much for winter stores until frost. After that you may have to feed some to keep all your hives over. But you can well afford it. Don't be of that number that expect to eat their cake and keep it too. In what other business can you find so large a profit as you have already secured?

You can wait until next year for surplus honey.

How will I know when my bees are under a fertile worker? I have three hives; one a nucleus framed early in June. They seem to turn out all drones, have eggs, but I can find no queen. Have given them more young brood. What next? J. W. BAYLOR.

Sharpsburg, Texas.

Your hive may have a drone-laying or unfertilized queen. If that is the case you can find her easily. If not, then be sure a fertile worker has possession. You will find several ways to treat her, given in the back numbers of THE JOURNAL. It is possible the bees may rear a queen from the brood you have given them, but in most cases they seem perfectly contented with the laying worker.

Prevention is easier than cure in these cases.

Nuclei, and all hives rearing queens, should be examined about the time the young queen ought to lay, every day or two; and bread supplied them so that if anything happens to the young queen, they can rear another. Fertile workers do not appear until a colony has been queenless sometime.

Please advise me of your theory about bees hanging outside of bee hives and not swarming when there is plenty of bees to make two or three swarms.

Corydon, Iowa. W. W. WRIGHT.

We judge that there is no honey for them to gather. Bees do not swarm, as a rule, when there is nothing for them to fill another hive with. If there is plenty of honey, and bees hang about idly, we divide them and set them at work filling another hive. A very good way to do that, when many are outside the hive, is to put a comb or two of brood into an empty hive (a queen cell too, if you have it), then brush all the bees off the outside of the hive quickly and remove the hive itself a few yards away—setting the new hive there. The bees thus brushed off will go into it without trouble and do well.

THOSE expecting queens from us, and also those who have ordered from others, must have patience, this year. All who are rearing queens have had many difficulties to contend with. First, cold spring weather, when nothing could be done with nucleii; then wet weather, so that young queens could not fly safely, and many were lost. Until the middle of July it was literally impossible to make progress with queen rearing. Things are favorable now, and just as fast as possible queens are being sent out. If this weather continues all our orders will be filled by the the time this number reaches our readers. E. S. TUPPER.

Send for our New Price List of hives, bees, queens, extractors, and all apiarian supplies, to Italian Bee Company, Des Moines, Iowa.

American Bee Journal.

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Advertisements must reach this office by the 20th of the month, to insure insertion in the next issue.

☞ Parties desiring either Langstroth's or Quinby's Works on Bee-Keeping can get them at this office; but, as the late Congress doubled the rate of Postage formerly paid—those ordering should enclose twenty cents each for postage.

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☞ Special Notice. ☜

During the past winter and spring the general cry has been: "Hard times, please wait a little while for our subscription." In consequence, our receipts have been light, while our expenses have not been lessened.

We have cheerfully "carried" thousands of our subscribers, and now trust that they will respond as soon as possible, as we have obligations that must be met *at once*. Many subscriptions ran out with the JUNE number, but we hope to hear from them NOW, as well as from those that expired before that time.

We shall continue to send THE AMERICAN BEE JOURNAL to all our subscribers until we get an explicit order from them for a discontinuance, and we hope those who do not wish to continue their subscriptions will notify us by letter or postal card either when they expire or before that time.

We ask those who are in arrears to send us the amounts due or at least a part of them, during this month, as THE AMERICAN BEE JOURNAL greatly needs these amounts to ensure its continued prosperity. Address

THOMAS G. NEWMAN,
196 and 198 S. Clark St., Chicago, Ill.

☞ A subscriber wishes to know where to get a catalogue of the "American Pomological Society." It can be obtained of the Secretary, W. C. Flagg, Moro, Ill.

☞ The Bank of California suspended on Thursday last. It was caused by reckless speculations; and Ralston, its president, committed suicide by drowning himself.

☞ The Club Rate for THE AMERICAN BEE JOURNAL and *Gleanings* will hereafter be $2.50 per year.

☞ THE SOUTHERN KENTUCKY BEE KEEPERS' CONVENTION will meet in Burksville, Cumberland Co., Ky., on the third Wednesday in September next (Sept. 15th), at 10 o'clock, A. M. All persons interested in bee-keeping are invited to be present.

N. P. ALLEN, *President.*

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, OCTOBER, 1875. No. 10.

Seasonable Hints.

From all parts of the West we receive reports of great yields of honey during the latter part of August and September. If care has been taken to use the extractor, and thus give the queen room, brood will have been reared until frost, and the hives will now be well supplied with young bees.

If, on the contrary, the queen has had little or no room for her eggs, the colony may be heavy with honey and yet have few bees—too few for safety. Such colonies should have, if possible, a comb or two of hatching bees given them from other hives more fortunate.

All supers and surplus boxes must be taken off after the first killing frost, and at that time we always put on our quilts, carpets or mats. Especially if the colonies are weak in bees is this an advantage; for it keeps the bees more comfortable. All entrances to hives should be made small and the bees disturbed as little as possible.

There is no danger from robbing in the fall, if bees are not left with entrances exposed, and broken honey where the bees smell it.

A season of rest seems to come to bees after severe frost; they fly out but seldom and are not eager to gather as they are in the spring.

If you have colonies which must be fed, do it now, that the honey or syrup may be taken when the bees need it before the weather is too cold. Give no more syrup (if that is to be fed,) than they can carry into the hive while it is luke-warm. We believe many bees are killed by taking cold syrup into their honey sacs. It is unnatural, as honey is always luke-warm when taken from the blossom. If you have given more than they take soon, remove it and feed the next day after warming it.

Later than this month we would not feed. It is better to break up or unite weak colonies, if you have any; remembering that one good strong one is worth more than any number of weak ones, at this time of the year.

If, however, you have hives full of comb with plenty of bees and a good prolific queen, even, if they have too little honey for safety, you can give them a few pounds of sugar made into a syrup, and they will winter quite as well or better than on honey.

E. S. T.

The Centennial.

It is absolutely essential that all who intend to exhibit anything at the Centennial should make immediate application to the committee, that they may know definitely how much space to secure.

Many who have written to me about it have given no idea of the bulk of articles to be exhibited, or their final decision what to send.

If we hear soon we can secure all the space necessary, but if the matter is delayed we shall not be able to secure space.

We hope that all will remember, that choice specimens of honey must be saved *this* fall, if to be exhibited. A number have written that they were securing honey in fancy shapes. We hope they will keep them.

Unless we make special arrangements to bring in honey as it is made, after the opening—as will be done in the case of perishable fruits, all the honey to be exhibited is already made. Let it be preserved with care, until needed.

Applications may be made at once to Mrs. Tupper, Des Moines, Secretary for Iowa exhibitors, and member of the National committee; or to S. Hoagland, Mercer, Pa.; or J. M. Winder, Cincinnati.

E. S. T.

Bee Report From Italy.

In a letter just received from COUNT ALFONSO VISCONTI DI SALICETO, of *The Journal l'Apicolore*, at Milan, Italy, he says: "Before closing my letter, allow me, Sir, to give you a few items of news concerning bee culture in Italy.

"As I told you in my last letter we have had great mortality among our bees, especially the common box ones. Spring came on very late, but it proceeded regularly, and the bee hives gained very much, so much so that in a very short time they were completely filled with honey. The swarming was, however, delayed, and was very poor indeed. Although the summer has been rather stormy our bees were able to make a considerable plunder, and from some bee hives we have already extracted from 15 to 20 chilogr. of honey, and hope to extract the same quantity in September. I speak however, of hives belonging to national bee-keepers. Bee culture is here gradually improving and the number of national bee-keepers enlarges more and more. Even the use of honey, which was once confined to commerce, is now considerably increasing, and in our families the custom of eating honey spreads very fast. All this is the consequence of the improvements of systems which regard cultivation as well as extraction.

"With my best compliments I have the honor to subscribe,

COUNT ALFONSO VISCONTI DI SALICETO.

We have received the following from the editor of the *Journal l' Apicoltore*, at Milan, Italy. It will be interesting to many of our readers:

HONORED SIR:—At the Editorial Rooms of the *Journal l' Apicoltore* there has been established a commission office for the purchase and sale of Italian queens, wax, honey, honey-comb, empty framed honey-combs, of the official measure, books, journals and every thing connected with bee culture.

The expenses of forwarding and packing are chargeable to the employer. Address: *To the Commissional Office at the Journal l' Apicoltore, Milan*, 38 *Tomaso street, Italy.*

The want generally felt of finding easy sale for the productions of bees, and likewise of knowing where to address in order to purchase, will obtain the approval and assistance of bee-keepers to this Commissional Office.

Another Race of the Bees.

A "Country Doctor" in the *British Bee Journal* remarks as follows concerning another race of bees, which are great swarmers:

"In Lunenburgh, Oldenburgh, etc.," says the Baron von Berlepsch, "is a bee which in formation of body and in color, that is zoologically considered, is identical with the ordinary kind, but which has certain peculiarities so marked, that it must be looked upon as a distinct race.

"1. A population with a queen of the current year builds as a rule some drone-comb, and often much.

"2. A queen of the current year lays drone eggs as a rule, and sometimes in considerable numbers.

"3. A queen of the current year often leads off a swarm.

"4. A fruitful queen of any age often leads off a swarm, although the stock is not fully filled with comb.

"5. The swarming impulse is so strong, that a rational management is thereby rendered very difficult.

"6. The building of drone-comb and the breeding of drones is so mischievous, that a rational management is thereby rendered very difficult."

☞ A correspondent desires that we request those who obtain the large yields of honey, whose apiary contains over 10 hives, to send a letter for publication in THE AMERICAN BEE JOURNAL, describing their management, so that other bee-keepers may compare notes. We shall be glad to have them do so.

☞ An article was copied into our last issue from *The Prairie Farmer*, but by an oversight our regular electrotype heading (For the American Bee Journal) was placed over the heading, and the credit omitted. *The Prairie Farmer* notes this lack of credit under the insulting heading of "It steals;" we would not be so contemptible as to return the compliment, should the opportunity be presented—for mistakes will happen in the very best of offices. "*Honi soit qui mal y pense.*"

A CORRECTION.—On page 199 of the September number, G. F. M. said that Mr. Harbison had lost 3,000 stands of bees during the Spring. He informs us that he has since learned that it was a mistake, but we did not get it in time to prevent the statement in the September issue. So we now correct it.

☞ On account of the large space being given to Bee Reports for 1875, in this number of THE JOURNAL, many valuable articles are omitted, which were intended for this issue. They will appear in our next.

Foreign Notes.

The Division and Subsequent Reunion of Stocks.

BY HERR GRAVENHORST.

Every bee-keeper who is only moderately observant knows that however pleasant swarming may be sometimes, under certain circumstances, it only takes place to his disadvantage; as, for instance, with stocks that have already furnished first swarms or scions, and with first swarms and scions themselves. The strength of the population is reduced by this splitting up into several small families, and though there may be plenty of stocks and bees, there is rarely so much honey as might have been harvested had this division not taken place. Those using movable frames—and to such my remarks here apply—endeavor to avoid this inconvenienbe by cutting out all the queen-cells but one from the mother-stock after the exit of the first swarm, or the formation of the scion. Putting on one side the difficulty of taking out and minutely examining the combs one after the other, and thus thoroughly disturbing the bee, this plan succeeds fairly with stocks from which scions have been made, and may be undertaken with certainty on the ninth or tenth day after; but in stocks that have swarmed, if the cells are cut out on the same day or a day or two later, open brood will probably be present, from which new ones are raised; while if the operation is delayed till the ninth day, it is very easy to be too late.

Thus where the swarming method is practiced, it is necessary, in order to prevent after-swarms, to cut out the cells on the same day, and also nine days later, thus twice going over this rough business. But suppose, unfortunately, that in the stock that has furnished either a natural or an artificial swarm, some trifling hidden queen-cell has been overlooked, or that the single majesty of the hive takes it into her head to swarm, an occurrence not unusual with us, swarming takes place, the cutting out of the cells has been in vain, and should the swarm be happily hived, a new perplexity frequently arises in not knowing from which stock it has issued, as the bee-keeper would be glad to return it in order that the stock may not be too much weakened and still capable of doing something. With my hives, a glance at the inside, if any one chooses to take the trouble of turning them up one after the other, is generally, though not always, sufficient to determine this. But how with the box-frame hives? is every stock to be opened and taken to pieces? No, rather is the swarm placed by itself to drag out a wretched existence, unless, perchance, another swarm can be joined with it in the course of a few days. And the mother-stock, even when it gets quickly furnished with a queen and does not become a prey to the moth, what does it yield? During the time that had it not swarmed, it would have gathered and stored up honey, it will exert itself to regain its lost strength, and should it succeed in this during a good gathering, it has done all that is possible, but there is no honey for the bee-keeper, and the industry of the bees counts for nothing. But enough of this. Whoever has so thoroughly gone through it all as I have, will gladly listen when I tell him that these all wearisome operations, all these vexations, may be easily avoided by the plan of division employed by me in my hive. In stocks that have swarmed naturally or artificially, the cutting out of the queen-cells is no longer necessary, that operation being left to the bees, who understand the business better than many a bee-keeper, and the undesired swarming is radically hindered. This is an assertion, says the reader, which must be proved; and the proof is easy.

Experience has long shown that small populations, such for instance as are used in queen-raising, never think of swarming, unless troubled by the moth or by hunger. In their queenless condition, indeed they take the precaution of raising several queen-cells, but under all circumstances they permit the queen that is first hatched to gnaw into the other cells and destroy the rivals she finds there.

To what breeder of Italian queens has it not happened, to his great annoyance when about to cut out the extra cells for another use, to find these already destroyed? Let us use the hint so plainly offered and divide a population we do not wish to swarm, but that certainly would do so if undivided, into as many smaller populations as the circumstances demand. Sometimes only a twofold, sometimes a threefold division, is necessary. And as through such a division the first hatched queen most certainly destroys the other queen-cells, only one queen remains in each small population, and the latter, feeling its weakness, never thinks of swarming. Each compartment naturally makes preparations for the raising of queens, and in favorable cases a fruitful queen may be found in each; but at the worse, if only *one* of the two or three queens remains and becomes fruitful, the early requeening of the united population is assured. This will follow earlier if a queen-cell nearly ready to hatch has been inserted into each chamber two days after the division. About nine days afterwards a fruitful queen may be found in one or other of the divisions, under which, after the removal of the other queens, if such

are present, the small populations may be again united. And in reference to the certain possessions of a new queen by the reunited stock, it is only necessary to observe, that with two, and especially with three queens hatched, the probability of the loss of all three must be very slight. At least one queen will remain, which then becomes the mother of the whole united stock. But the unnsual occurrence of all three queens in a threefold division being lost, is an exceptional case, upon which little stress need be laid, since other divided stocks will have a spare queen for the less fortunate ones.

It will be understood that by this mode of division drone-breeding in the mother stock becomes almost impossible. In this matter, again, the easy control that the apiarian has over the two or threefold stock comes to his assistance. And if, by this plan of division, he preserves only one of his stocks from drone-breeding, the slight trouble which it causes is thoroughly rewarded.

That these small stocks of the divided hive only build worker-comb under a young queen, results from their weakness and the impulse they feel to increase as rapidly as possible the working population which can only be raised in worker-cells.

In situations where bees that have a strong tendency to swarm are cultivated, or where through a luxuriant pasturage they are easily excited to swarm, more especially if the stocks are kept thoroughly strong like mine, it not unfrequently happens that these stock, even under young queens, instead of worker-comb, vigorously begin to build drone-comb, which is frequently furnished with eggs. This undesirable occurrence is quite prevented by this plan of division. The empty frames with guides that are given to these dividen stocks are, on account of the reason above stated, built without one cell of drone-comb. In this manner five new combs may be built in a threefold stock, so that the united population may contain fourteen beautifully perfect combs, which, being free from drone-comb, are of considerable value to the bee-keeper. It must be remembered, however, that comb-building costs honey, which also has its value; and judicious bee-keepers will make the production sometimes of the one, sometimes of the other, his principal aim according to the end in view. A certain amount of comb-building, however, should always be permitted to these populations in which the building impulse is strongly awakened when the young queen begins to lay. The increased industry of the bees through comb-building doubly compensates for the honey used for a moderate amount of combs.

There are two advantages of this mode of division which cannot be too highly estimated,—the raising of so many young queens, and the production of populations capable of work at the right time. Every stock yields one or two fruitful queens, which can be used for stocks that have not been divided, or for those that have become queenless, or for exchanging with old queens, or those that are not satisfactory, or for sale if there is the opportunity. The advantages hence resulting there is no need specially to mention; they are apparent, as also are those of possessing at the right time, strong working populations, or to express myself popularly, "to have bowls ready when it rains porridge." Heis in want of the bowls whose stocks first develope themselves, not before, but during the gathering time, or break up before or at the beginning of this time into smaller populations. This splitting up of the strength can be radically prevented, as I have pointed out by my plan of division if this is undertaken at the right time, that is so arranged that by means of the reunion of small populations, strong stocks under young queens, free from the swarming impulse and filled with a restless eagerness in collecting, are produced at the season of the principal pasturage. —*Echoes from Germany, in British (Eng.) Bee Journal.*

(To be continued.)

For the American Bee Journal.

My New Bee House.

BY B. I. TALBOTT.

MR. NEWMAN:—As I see so much said about a bee house now, I send you the following article which I had published in the *Farmer's Journal*, Cedar Rapids, Iowa, for March, 1873. I have used the House ever since with good success, and believe it to be the great need of the age. Here is the article in question:

Having built a bee house a little different from any I had seen, I thought I would give a description of it so that if any one wished to duplicate it, they might do so without the expense of a patent, as I am willing to make it a free-will offering to the whole bee-loving fraternity.

DESCRIPTIONS OF MY HOUSE, BUILT FOR TWENTY-FOUR HIVES.

The foundation the same as for a balloon frame, 4 joists 2x6, 15 feet 2 inches long; spike well together in form of a rabbet, then 13 joists 2x6, 6 feet long, placed just 15 inches apart from center to center, and you have a foundation. Then for one side, take 13 studs 2x4, 6 feet long. Nail securely on the lower end of them, a good and straight flooring board, placing the studs just 15 inches apart from

center to center, then a 4-inch strip nailed on the upper end of the studs, and it is ready to raise; then nail the flooring board well down to the foundation, duplicate it for the opposite side, and finish laying the floor in the center of building. Then have one good stock board, 15 inches wide, 15 feet two inches long, for bottom of the hives; place on the floor close to the studs, cut beveling, slots between the studding in bottom board, so that when the side-board is in its place, the bees can pass out. Then take another board of same dimensions and cut a rabbet on side, and upper edge, one inch deep, half the thickness of the board. Then cut thirteen rabbets, 15 inches apart from center to center, cross-ways of the board, ⅞ inch, just as deep as the rabbet on the upper edge of the board. Place this board with one edge on the bottom board, and the undressed side against the studs with the center of rabbets, corresponding with the center of studding, nail it well to the studding, and you have the bottom and one side of 12 hives. Then prepare 13 boards 14 inches long, 15 inches wide, ⅞ of an inch thick, place one end in each rabbet, and toe-nail them, and you have the end boards of 12 hives. Then prepare another board 12 inches wide, a little beveled on the under edge, and rabbeted in same manner as the one nailed to the studding. Nail it to the 13 end boards, and you have 12 hives 13x14, 14 inches deep, with a rabbet in the upper end to receive the moveable honey frames. But you have a vacancy of three inches at the bottom of one side of the hive, and I will tell how to fill that. Prepare 13 small strips, beveled a little on each edge to fill out the end board flush with the bottom and side board. Then find the size of the hole, and prepare 12 pieces one inch thick, with a 1¼ inch hole in the center, with a piece of wire cloth tacked on the inside, and a plug about two inches long; then fix the other side of the house in the same way, and you have 24 hives. To inclose the house, I invert a piece of siding obliquely between the studding so as to form a piazza in front of each hive, two inches high in rear, and four inches in front, and there commence the siding. I covered the sheeting and studding well with saturated paper before siding and shingling, put a door in one end and a window in the other. Side, roof and paint it well, and you have a neat house with 24 hives, at about $2.50 each, house and all.

Now I have described my house, and know all men by their presents, that I have no patent, and don't want any. Pitch in, all ye bee men; (and the rest, too,) tell what you think of it. All the bee journals please insert and charge to the first man that wants a house like mine.

Viola, Linn Co., Iowa, Feb., 1873.

Lincoln County, Tennessee.

T. G. NEWMAN: *Dear Sir*—The following description of Lincoln county will be interesting to many of your readers, especially those wishing to find homes in a warmer climate, where bee-keeping will *pay*. Those wishing further information will address Rev. J. W. Wait, Prof. J. A. Ramsey, or your humble servant,

J. F. MONTGOMERY.

Lincoln, Tenn., Sept. 1st, 1875.

Lincoln county lies almost wholly within the great Central Basin of Middle Tennessee, and contains 332,800 acres. The county is cut into two nearly equal parts by the Elk river, which flows from east to west. Between Elk river and the Alabama line is a belt of high, level land which is the water-shed between the former water course and the Tennessee. The surface of the country is greatly diversified, the climate is mild and salubrious, an ice season seldom occurs, and the summer heat rarely reaches 100 degrees Fahrenheit. The average elevation being about 500 feet above the level of the sea, the air is comparatively free from miasmatic influences. The average temperature for winter is about 42 degrees; spring 61 degrees; summer 78 degrees; autumn 61 degrees. The average for the year is about 60 degrees, and the greatest range for any one month does not exceed 40 degrees.

The lands, with the exception of a strip lying on the Alabama line, about eight miles wide, are very fertile. Much of this strip, however, is quite productive when there is a red clay subsoil, and is generally well timbered—oak, hickory, chestnut, blackjack, etc., furnishing rails in great quantities for other portions of the county—and the grazing is excellent. This land can be bought at low figures—ranging from $1.50 to $10 per acre—though it is splendidly adapted to fruit growing. The whole State affords no better region of country for grapes, apples, peaches, pears, plums, etc. There are several Northern farmers now located in that part of the county, and have already demonstrated that skill, thrift and industry, unawed by unpromising soil, can make the waste places blossom as the rose.

The remainder of the county is of the most fertile character. Spacious valleys, alternating with hills and ridges, are the leading features, all of which are susceptible of cultivation, form the lowest to the highest points. Blue grass grows with great luxuriance, and the sunny slopes furnish ample grazing facilities during the winter for sheep and cows.

The timber consists of lime, buckeye, hickory, poplar, box elder, black locust, chestnut, beech, dog-wood, iron-wood, horn-bean, sugar-tree, hackberry, cedar in limited quantities, and all the oaks and elms. All the valleys of the county were once covered with cane thirty feet high, and even now the plowman, who penetrates the soil to any considerable depth, turns up masses of cane root. The soil is as rich as any in the State, and it is not unusual to gather 1,000 lbs. of seed cotton to the acre, as much as 2,000 lbs. having been raised. A fair, average price for these lands ranges from $10 to $50 per acre.

The corn crops of Lincoln are generally very fine. Perhaps no other county in the State can make a better average showing of this great staple. Wheat, also, when properly put in, gives very satisfactory returns; it being by no means remarkable for the yield to reach 20, and sometimes 33 bushels to the acre. Timothy grass grows with great luxuriance on the moist bottoms, and millet, of every variety, yields abundantly. Some of the heaviest millet crops ever harvested in the State were grown in this county, so says the report of the State Bureau of Agriculture for 1874. Cotton, too long the sovereign of Southern planters, has been, in the main, a great crop, and too many sacrifices have been made to its culture. Our people, however, profiting by experience, are abandoning it as rapidly as possible, and favoring other productions less injurious to the soil and more renumerative in the end.

Everything goes to prove that this county is well adapted to stock raising. The blue grass that clothes the slopes of the hills, and the well watered valleys, the natural facilities offered by the soil for producing forage, and the abundant yield of corn, show how eaisily and how cheaply stock of the best quality can be raised. There is a growing inclination on the part of our best farmers to abondon cotton and substitute therefor stock raising, and many of them are even now enabled to make a splendid display of short horns, as an evidence of their practical reformation in this respect. Considerable attention is being paid to sheep, and some of the best breeds in the State are to be found in Lincoln county.

Our farmers, as a class, are well informed, intelligent, substantial, and industrious. The farms will probably average from twenty to fifty acres of arable land. The farm-houses and improvements are about as good as are to be found in other portions of the State. While the low bottoms are not well adapted to the growth of fruit, which is liable to be killed by late frosts, the flat lands and hilly regions grow almost every variety to be found in the temperate zone. Especial attention is being directed to the culture of the grape. The admirable drainage, and broken surface of certain sections of the country, together with the abundance of wild grape vines, show a peculiar fitness in the soil for the growth of this fruit.

While the water power is not the best in the State, it is fully equal to all the present and probable future demands of the country. Elk river is not an ungovernable stream by any means, and it is now utilized, or can be, at every few miles.

There is one rail-road, forty miles in length, in the county, connecting Fayetteville, the county seat with Nashville and Chattanooga Railroad, the main thoroughfare of Southern travel.

Lincoln county has more than once been the banner county of the State in the leading products, as well as in the higher evidences of prosperity and substantial progress. It has produced the greatest number of pounds of wool, the greatest number of horses, the largest number of sheep, and had more capital invested in live stock than any other county in the State. It has been second only in quantity of rye produce, and in pounds of butter. It has been third in corn and fourth in wheat.

Lincoln county does not desire a dense or a promiscuous population, but a sufficient influx of steady, substantial citizens, to carry on every branch of human industry for which there are natural facilities, unsurpassed in any other portion of the State. We invite men representing every class of honest industry and skill, regardless of previous political predilections, to settle in our midst, and to all such, who come among us with fair and laudable intentions, seeking in good faith their own and the material prosperity of the county, we vouchsafe a cordial welcome.

We can speedily disabuse their minds of partisan prejudice, and convince them under our roofs and around our hearthstones that we are a people worthy of fraternal alliances, and capable of appreciating merit, whether it comes from the looms of Massachusetts or the rice-fields of South Carolina. We make no sectional distinctions and we know but one country and one flag—the Union of our fathers and the starry emblem of its sovereignty. Whatever miserable political marplots may say, we cherish no bitter recollections of the late unhappy war. We have buried our dead, dried up our tears and put the past in our rear and out of sight. We belong to the future and to our country, we are in search of peace and prosperity, and Mason and Dixon's line has passed out of our sight and memory forever. Gentlemen, of the North, come among us; partake of our hospitality; be our friends and brothers, and the soil of old Lincoln will repeat the welcome of her sons.

For the American Bee Journal.

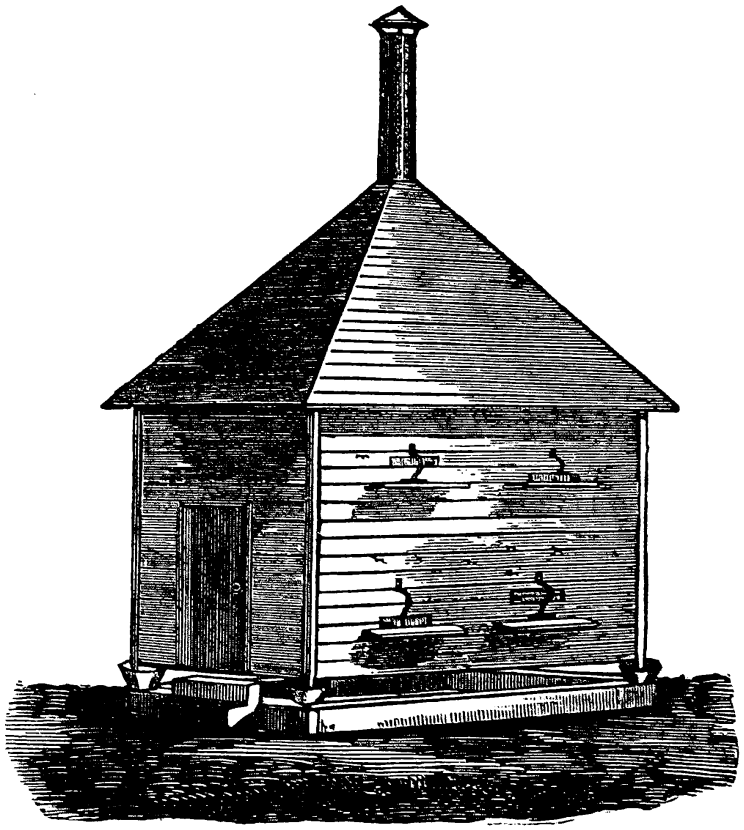
HOW TO PREVENT SWARMING.

As many inquiries have been made respecting my improvement in an Apiary, I will take this method of answering, and giving the information desired.

My improvement in an Apiary, which was patented on the 4th of February, 1868, (No. 74,665.) brings to the light the hitherto great mystery of bee's swarming, and proves it to be a habit caused by necessity, and not an instinct.

Two of the leading causes are heat and the want of side room. Having understood these facts for twenty-two years, I can safely say, and my neighbors can all testify, that my bees do not swarm. No brood or honey is removed to prevent it: they use all their force in storing surplus honey.

My improvement in an Apiary consists in a house so constructed and ventilated, as to render it indispensable for keeping bees comfortable and dry in winter, the much desired even temperature through the summer season, and for yielding the largest amount of honey possible to be obtained from the bee, in boxes.

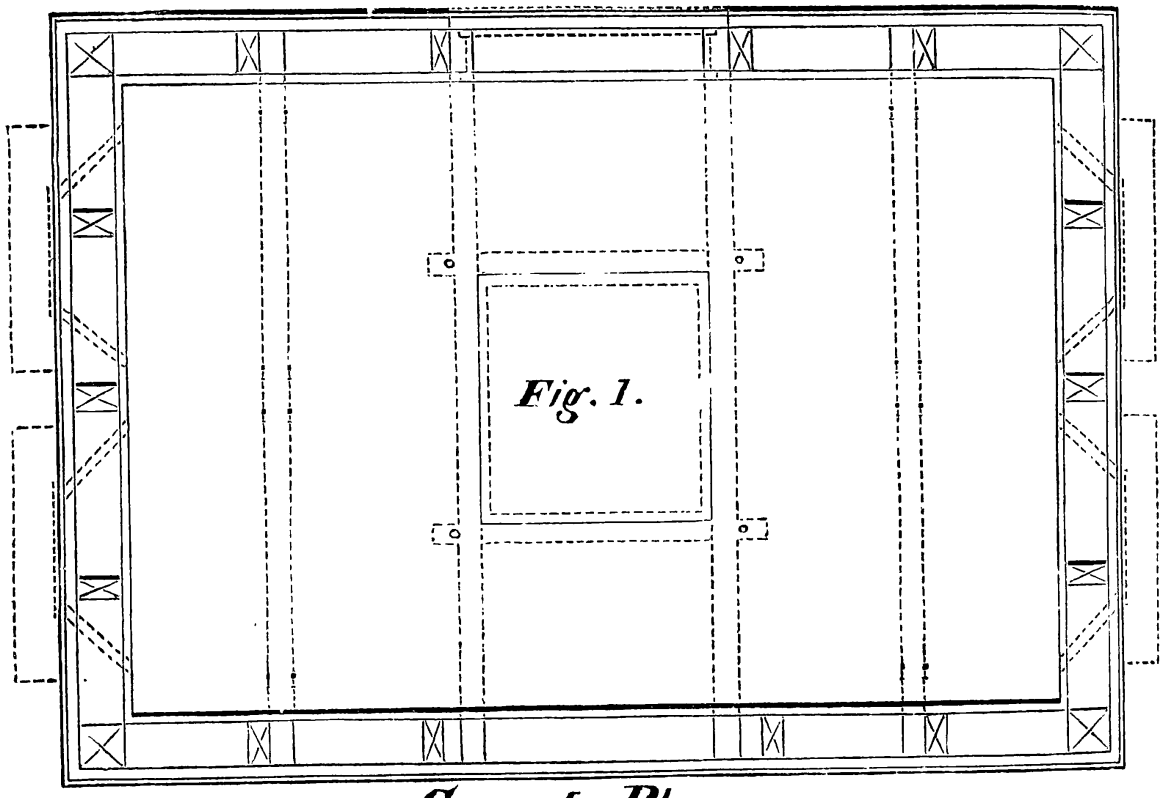


FAULKNER'S IMPROVEMENT IN APIARY.

The cellar is to be near five feet deep, and walled, iron pins fastened to the sills; the pins to rest in cups; (tar or any nauseous ingredients should be put in the cup to keep the ants out of the building) and in length sufficient to elevate the building 1½ inches above the foundation; a flue to extend up from the ceiling nine or ten feet, well secured at the roof to keep the water out; two apertures or holes in the ceiling, should have slides to open and close. There should be a shutter to open and close hatch in the floor. When the apertures are open, the flue may be made of wood or sheet iron, and wire gauze should be fastened in the top of the flue to keep bees and other insects out; all hives must have two or more large ventilating holes with sieve wire over them.

In figure 1 is represented the entrance for the bees, and lighting board, the entrance ¾ of as inch high, 12 inches wide, and increases in width, as the dotted lines show in the walls on figure 1; for ordinary size hives entrance to be continued same width (12 inches) through the walls; lighting board 20 inches wide, 24 inches long and ⅝ inch thick to pass through the wall and fasten to shelves inside on which the hives rest. *The building may be arranged inside for any kind of hive desired.* A piece of board 1¾ inches wide, ¾ of an inch thick, 16 inches long, and notches 3 inches long, ⅜ of an inch deep, secured to the entrance of the hives by means of springs made of hoop iron, fastened to the wall, to decrease and increase the entrance for the bees as needed, as seen on figure 5: a cheap foundation may be made, by setting posts in the ground, and nailing boards to them, as seen in figure 5; then dig the cellar inside of the foundation and wall it well-fashioned. Walls of the house from 7 to 10 inches thick may be filled in with saw-dust or any non-conductor of heat; also the double floor should be filled

in, and over head it should be filled 12 or 14 inches deep; ceiling and doors may be made any height desirable; first shelf for hives 6 inches from floor, the second shelf 2½ feet above first; these shelves are made square to the walls and 19 inches in width.

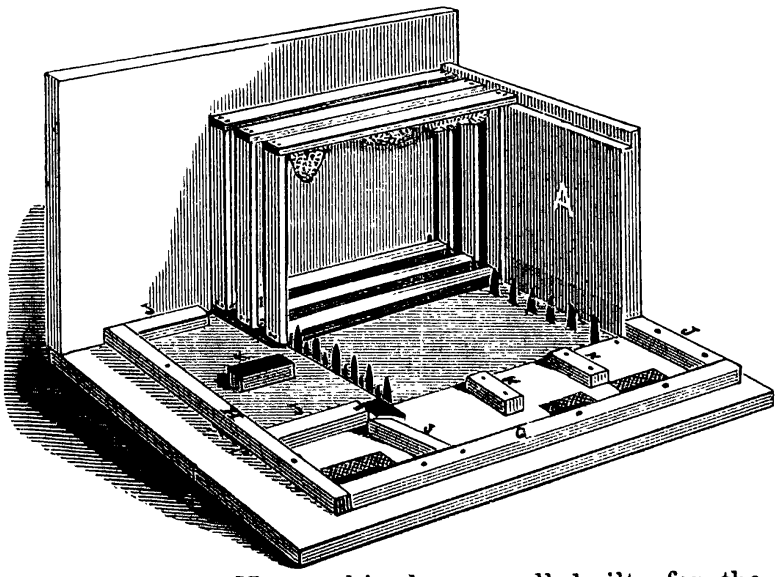


Ground Plan.

For every 2 feet 6 inches in depth may be added one more tier of hives on each side For any increase in size of building there must be a proportionate increase in size of cellar and flues. For 12 hives, flues and cellar to be one third larger, and so on. Two doors to enter the building, 2 feet 2 inches wide; inside door hung on shutter hinges for convenience, and made air tight by tacking a piece of thick cloth even with the edge of the door, so as to shut tight against the rabbet formed in the door frame, and firmly fastened by means of hook and staples.

The house should be shaded on the sides, screened from the winds, and painted any light color except white.

Fig:1



Fig's 1 and 2 show how to cut out and set up the hives. Fig's 3 and 4 show how to put the boxes on. The top side and end being removed. They are filled with 3 and 6 lb boxes, and enough can be put in to store 200 lb.

With our style of hive the honey is stored in three and six pound glass

boxes; also in small frames. Honey prepared in this way will bring a much better price than extracted honey, giving greater profits. Now, this house well built, for the accommodation of sixteen colonies of bees, will costless than sixteen hives with sufficient box room. The house may be arranged for any kind of hive and in number from one up to any number desired. You can examine your bees and see their

Fig. 2

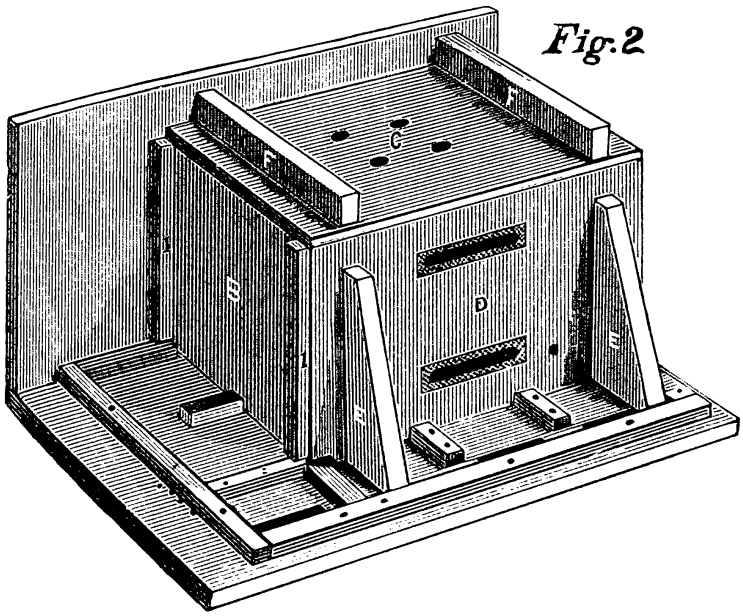


Fig. 3

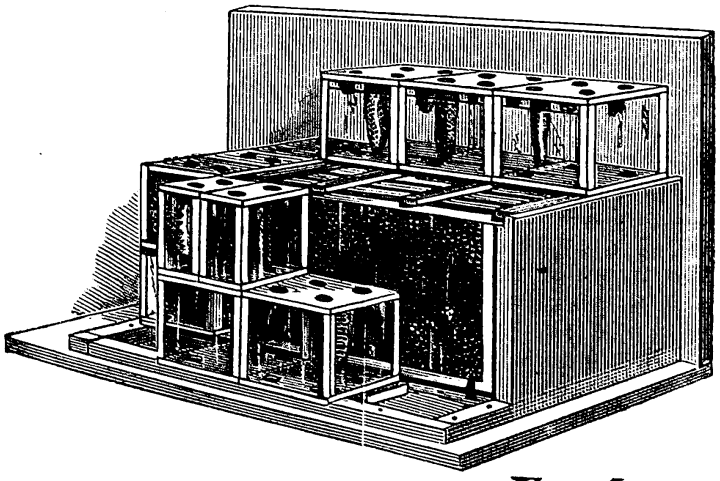
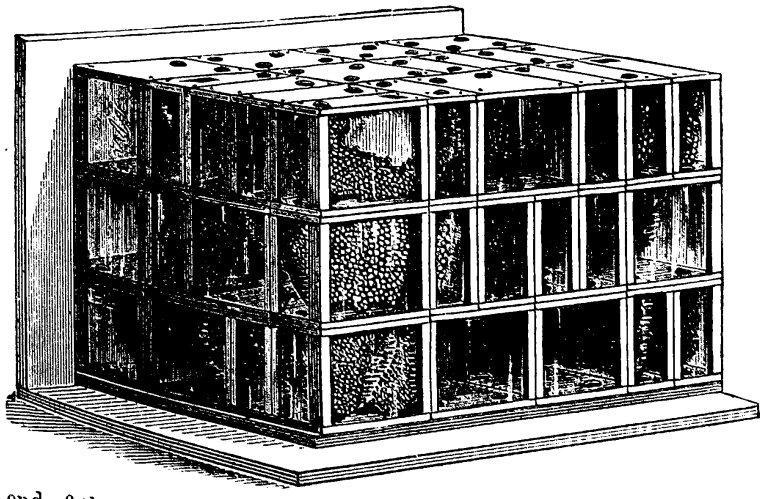


Fig. 4



condition, and if necessary, feed your weak colonies, without danger of having them robbed.

As you can plainly see, this house is particularly adapted to the wants of the farmer, as the great and much sought-for principle of controlling swarming is here brought to light, and carried to the utmost point of perfection.

I am keeping bees at five different places, three miles apart. In the fall, I go to each one and see that all the colonies are in condition for winter—close ventilation to house (the hives are ventilated inside of the house both in summer and winter,) also close the mouth of hive to about one-half inch; in hard freezing weather leaving only room enough for one bee to pass at a time; when the weather moderates increase the size of the mouth of the hives to one-half inch, as the bees commence hatching their brood they generate a great deal of heat. I then examine and see if all have queens; if I find any queenless I give them one (as I keep surplus queens through tne winter.) and if any are not cropped, I crop them. As the weather becomes warmer increase size of mouth of hive, and when the heat in the house raises to 85°, commence opening the ventilators, but keep the temperature from 85° to 90°. In May, when the bees commence sticking wax freely to the honey-board, I remove it and place narrow strips on the frames, one-fourth inch thick, crossways, for the honey boxes to set on, and as soon as the bees commence work in the boxes I remove the side, fill the place with boxes, also the end of the hive; now as soon as the boxes on the top are nearly filled I change them with some of the side and end boxes; by this means the working force is distributed uniformly over the hive, and in the hurry of business they forget to swarm.

All persons are hereby warned not to use this patent, without first obtaining an Individual Right.

Vevay, Switzerland County, Indiana. WM. FAULKNER.

BEE KEEPING IN 1875.

UNIVERSAL REPORTS.

In our last issue, it will be remembered, we called for answers to the following questions:

1. What has been your success this season up to date, as regards honey and swarms?
2. What is the prospect for the balance of the season?
3. Which are the *best* three honey-plants in your location?
4. When do they *begin* to yield honey, and *how long* do they thus continue?

Answers have been bountifully supplied, and we have pleasure in presenting them to the readers of THE AMERICAN BEE JOURNAL. Correspondents have our thanks for their prompt response to our request.

MR. NEWMAN:—In accordance with your request, I send the enclosed report of the present season's work, up to date, with my bees:

1. Started last spring with sixty hives, all in fair condition. Have increased them, (part by natural and the rest by artificial swarming, as described in Vol. 7, No. 1, pp. 23 to 114,) all in splendid condition. As to the amount of surplus honey, I cannot say positively. It is nearly two thousand pounds, all comb honey, in small frames.

2. At present, prospects for the balance of the season is good.

3. First in importance is white clover. Second, basswood. Third, buckwheat, and, I might add, golden rod, boneset and smart-weed, all in bloom this month, from which the bees are now gathering honey quite rapidly, and are still actively at work in the surplus boxes.

4. White clover usually comes into blossom about June 12, and continues from four to six weeks, owing to more or less rain. Basswood blooms about the 16th of July, and continues from one week to ten days. Buckwheat begins to blossom about August 10, and continues for about four weeks.

Both clover and basswood were almost an entire failure, this season; while buckwheat and the fall flowers are quite good.

HENRY S. LEE.

Crawford Co., Pa., Sept. 9, 1875.

EDS. AMERICAN BEE JOURNAL:—In answer to your inquiry I will report concerning my location as follows:

I started with three colonies(from seven last fall), now have six in excellent condition, mostly hybrids, (had simply comb to give them) and have taken up to date thirty pounds extracted and ten pounds comb.

2d. Prospect good for balance of season if weather permits bees to work.

3d. Best three honey plants: white clover, aster, several varieties, and golden rod, several varieties.

4th. White clover begins blooming about the first week in June, (later this year) and continues till frost.

Aster begins to bloom about August 1, continues till frost. Golden rod about August 15, and continues till frost.

We have other sources, such as willow, some soft maple, boneset, motherwort, vivaia, wild onion or garlick (valuable), hartshorn, nettle, etc.

Last year my bees would not touch the golden rod, but went for aster right beside it "lively." Bees are now gathering from aster and a plant whose honey has a strong, sour smell in the hive, but the honey is good when sufficiently evaporated for sealing.

Boneset gives a bad taste to all the honey it is mixed with, and is so far an injury, though, I presume, it is good enough to winter on.

I shall look with interest to the answers to your questions, as I am looking up a location for an apiary, and have been for some time past. ROBERT J. COLBURN.

Cook Co., Ill., Sept. 10, 1875.

In reply to "Special" questions:

1st. Am using Coe's House Apiary; put in five colonies May 20; have increased by artificial swarming to twenty-three colonies. Have taken about sixty pounds of honey from two colonies.

2d. If the weather proves favorable my young colonies will all become strong enough to store sufficient honey for the winter.

3d. White clover, motherwort and basswood.

4th. White clover, June 1 to August 20; motherwort, June 1 to September 1; basswood, July 10 to August 1. There are also here, gill-over-the-grass, April to July; catnip, July to September; mustard, July to frost. MRS. MARY J. STIBBS.

Wayne Co., Ohio, Sept. 10, 1875.

DEAR BEE JOURNAL:—I submit the following answers to inquiries in your last issue:

1. Early part of season cold, and backward for bee culture and honey-making. Bees did little or nothing. Towards the last of May, each swarm was divided. Two swarms out of ten made 30 pounds of surplus honey, each. This was made in boxes on top of hives—but all had plenty of honey in the body of the hive. One hive swarmed after division.

2. Very good.

3. White clover, buckwheat and sumach.

4. *White clover* usually yields honey from about the 1st of June until the 1st of July; *buckwheat* from the last of July until the 1st of September, and *sumach* from the middle of July until the middle of August.

During April and early May, the blossoms of fruit trees are the principal dependence for honey-making.

GUSTAVUS CHOLWELL.

Duchess Co., N. Y., Sept. 6, 1875.

My success has been very good, the latter part of this season. I started with thirteen swarms in the spring, fed to the amount of one dollar to the stand; have increased to about sixty, and taken out two thousand pounds of extracted honey.

The prospect for the balance of the season is good.

The best honey plants now are: buckwheat, *poligonum erectum*, and the different varieties of golden rod. Honey-dew has also helped. N. CAMERON.

Douglas Co., Kansas, Sept. 15, 1875.

I would say that my success in bee keeping this season, has far exceeded my expectations. I took my bees (only two stocks,) from the cellar about the last of March, one of which was pure Italian of tolerab e strength, the other contained an Italian queen badly mated, but they are excellent workers. As our colonies were thus limited, my principal aim was increase of bees, not honey. Now (Sept. 9) I have twenty-four swarms. About three weeks ago I began to extract honey, and since that time I have extracted 263 lbs. and the prospects are good for an increase of one or two stocks and a hundred pounds more of honey.

The principal plants upon which the bees work in this vicinity are: white clover, basswood and buckwheat. Basswood secreted but little honey this season. In the time for clover it was too wet for the bees to work, consequently clover-honey is not abundant, but they have had an excellent time to work on buckwheat, and buckwheat honey is abundant.

This being my first experience in bee keeping, I have much to learn, and as an instructor, your BEE JOURNAL cannot be surpassed. C. C. CRAWFORD.

Kane Co., Ill., Sept. 9, 1875.

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1. From thirty-two colonies, got 200 lbs. extra honey, and increased to 545; *strong* in bees; about half honey enough to winter.

2. Nothing to be gathered after this.

3. Fruit and locust, white clover and buckwheat.

4. Fruit, 1st of May, ten days. Locust, 15th of May, five to nine days. Clover, 20th of May to 10th of July. Buckwheat, August 1, to 15th to 30th September.

H. NESBIT.

Harrison Co., Ky., Sept. 15, 1875.

EDITORS AMERICAN BEE JOURNAL:—I send you the following report in compliance with your request in the September number:

Commenced the season with thirteen stocks, mostly in good condition. Have increased to thirty-three. Have taken off ninety-three single-comb boxes, (Geo. T. Wheeler's boxes, of Mexico, N. Y.) each containing probably two pounds of honey. There are thirty-six more in the hives, nearly filled. Have extracted about 150 lbs., after deducting what I fed of last year's honey at the close of the clover season to get boxes filled that were almost full.

Buckwheat is generally sown here from the 20th to the 25th of July, and the bees commence to gather honey from it toward the last of August. It will yield honey probably till near the last of this month.

The prospect for the balance of the season is good.

White clover and buckwheat are the best *two* honey-plants, but I am hardly certain about the third. Perhaps it is whortleberry, of which there are several varieties in all the swamps and woods all along the shore.

My bees obtained considerable honey last fall, lighter in color than, and of as good flavor as white clover honey. I don't know what it was gathered from unless it was later. I don't see much aster this season in blossom yet.

White clover generally begins to yield honey, I think, soon after the middle of May; but this year not till the 1st of June, and lasts till about the last of June. Not much honey was gathered from that time till the last of August.

Buckwheat begins to yield honey the last of August, and lasts till near the end of September, I think. I made several swarms the 1st of this month, which I expect to get in good shape for winter. I can't give the beginning or ending of whortleberry honey. It is in blossom when white clover is, and isn't of *very* much importance on that account.

E. KIMPTON, M. D.

Ocean Co., N. J., Sept. 6, 1875.

MR. NEWMAN:—In answer to your questions let me say:

I started with twenty-six hives of bees this spring, having brought them all safe through the winter. I let them remain on their summer stands and put quilts on them. This was the only protection they had. In that condition they wintered well, without the loss of a single hive. I have increased my bees from 26 to 30 hives, and have taken, up to date, 500 lbs. of honey. My bees are still working rapidly on the fall bloom and carrying in quantities of pollen and honey. The first part of the season was very poor, as all the bloom was killed, and after that the

rainy weather set in, and it was all that the bees could do to keep up breeding and keep a little honey ahead. In fact, about the 2d of August it was so cold and rainy, and my bees, being kept within for several days, some of them commenced to crawl out of the hive in the grass and die. I fed them some syrup, and as the weather moderated and cleared up the next day, they went to work with a will to make up for lost time.

With regard to the prospect for the balance of the season, I can say that my bees are doing as well as I could wish. They are still carrying in plenty of pollen and honey, and sealing a great deal of it over. They have also plenty of brood in all stages for this season of the year. I have given most of my hives young, fertile queens, and they are breeding very rapidly, thus filling the hives with young bees, preparatory to standing the siege of winter's cold blast. My bees are Italians; I would have no other. I would not have black bees as a gift, and be obliged to keep them so, without Italianizing them.

The best three honey producing plants in my location for fall gathering, are: smartweed, boneset and golden rod. We have also another plant, I do not know the name of, that grows some eighteen or twenty inches high and branches out, and has small blue flowers on it. The bees work on it very much. We have here during the spring and summer, peach, apple and cherry, and the different fruit blossoms. The next best blooms are the black locust, yellow poplar, and the white and red clovers. They gather rapidly from the red clover, but I think they gather faster from the poplar bloom than any we have here. They will fill their frames every few days, when it secretes well.

The smartweed begins to bloom from the 18th or 20th of August, and blooms for some four or six weeks. Boneset commences to bloom about the 24th or 27th of August, and blooms about as long as smartweed. The golden rod commences to bloom here about the 26th and 27th of August, and blooms until frost and freezing weather sets in.

My bees were still carrying a little honey and pollen the 24th of October, last year, from the golden rod and from a little white flower that grows in our swampy lands. It is hardy and takes a hard freeze to injure the bloom. I have seen my bees visiting it after we have had some snow, on warm days.

WILLIAM BENCE.

Jefferson Co., Ky., Sept. 16, 1875.

EDITORS AMERICAN BEE JOURNAL:—In answer to your questions, I would say:

1st. My bees have made but little honey this season. They have been more disposed to swarm than I ever knew them before, but I have prevented increase by clipping and doubling, only to just double my swarms. Quantity of honey light in proportion to number of bees.

2d. There is nothing in this section (it being generally all upland) to rely upon for honey, when our domestic flowers fail.

3d. Alsike, rape and buckwheat. Alsike clover begins to blossom commonly between the 6th and 12th of June, continues four or five weeks, if allowed to stand; depending much on the weather, whether wet or dry. Rape can be sown from early spring till the time when it will barely blossom before frost; it blossoms in good growing weather, about two weeks after it comes up, and continues to afford honey about four weeks. Buckwheat is too common to need description. A. STILES.

DeKalb Co., Ill., Sept. 13, 1875.

DEAR JOURNAL:—My success this season is as follows:

I commenced with fifty-five swarms, and now have one hundred and six, in good condition. The season has not been a favorable one for honey, but I shall have about 1,500 lbs. of surplus in frames, from this season's operations.

The three best honey plants are white clover, basswood and buckwheat; but when buckwheat was in bloom, it was very wet here. M. SNYDER.

Albany Co., N. Y., Sept. 17, 1875.

EDITORS AMERICAN BEE JOURNAL:—In response to the interrogatories addressed to your readers in the issue for September, I answer as follows:

1. My success in raising bees has been good, having increased more than three fold; while I lost more than a dozen swarms, (some of my choice Italian queens among them,) through sheer ignorance, not knowing how to manage them, I flatter myself that I shall be master of the situation another swarming season, from my dear-bought experience in this. The product of honey has not been great, or at least the surplus has not amounted to much, for they raised young to such an extent, and continued at it so long, that it seemed to require most of the honey to rear brood. My hives are now all strong in bees, and those that swarmed early, have afforded me some twenty or thirty pounds of surplus honey each. Those that swarmed late, have maintained themselves in a healthy condition.

2. The prospect for the balance of the season is good. The smart-weed, and other fall honey producing plants, have commenced to bloom, and the bees have been quite busy at work for the past few days. In fact, I look forward to my best honey harvest, should the weather continue favorable during this and the ensuing month.

3. I am not very well versed in botanical lore, my time has been too much in demand by my professional duties, and my experience in bee-keeping has been too limited, to determine satisfactorily the best three honey plants in this locality; but I think they are the peach, including the wild *lauro mundi*, the gum, of which there are three varieties, the sweet, the black, and the tupelo, and the smart-weed.

4. The wild peach is an evergreen and blooms in January. The domestic peach blooms with us in February and March. The bees gather honey from the two, I suppose, eight or ten weeks. The gum blooms in March and April, but I am not prepared to say how long. The smart-weed blooms about the first of September, and continues until frost. I consider it our best honey-producing plant, and the honey gathered from it, though rather dark, is of a most delicious quality. My bees are now working at it in full blast, though on account of the excessive heat, their operations are pretty much confined to the forenoon. About two or three o'clock, P. M., the mercury then ranging about ninety-six in the shade, they slack off and hunt a shady place about the hive. At that hour in the sun, empty combs melt and run like water. J. APPLEWHITE.

Pike Co., Miss., Sept. 7, 1875.

MR. T. G. NEWMAN:—In answer to your questions I respond:

1st. Very little success, as regards the amount of honey gathered, and only a moderate amount of swarms.

2d. The prospect for the balance of the season is not very flattering. Buckwheat is now in bloom, but the bees seem to gather little or no honey from it. Does too much wet weather affect the honey-producing capacity of it? August here was very wet.

3d. White clover, buckwheat and sumac.

4th. White clover begins to yield June 15, and continues about a month. Buckwheat begins to yield about September 1, and continues two or three weeks. Sumac begins about July 15, have not noticed how long it continued.

FOREST PRESTON.

Lancaster Co., Pa., Sept. 9, 1875.

ANSWERS TO QUESTIONS:—1. Bees stored no honey, raised but little brood up to July 20th. Then hives were soon filled with brood, swarms were numerous and considerable honey stored from August 1 to Sept. 3. Ten hives, Italians, increased to 28, beside two that we know left us.

2. The prospect is now good for remainder of season.

3. We have no clovers. Locusts destroyed all my red and alsike. Pusunu, buckwheat, smart-weed, and golden rod, all very plenty near me this season.

4. First two began to bloom July 15th and 20th, and are yet. Last one not in bloom yet.

I am a beginner in bee-keeping and Kansas farming; am in open prairie, 1½ miles from timber and water. Fruit trees, hedges and cultivated trees, though young, are numerous. I water my bees, keeping water in trough in apiary constantly. Just now the country is covered with bloom, buckwheat, smart-weed, wild sunflower and two or three other large yellow flowers, I cannot ascertain their names, and they are entirely new to me.

I have extracted 100 pounds honey, and have from 100 to 200 now to extract, about 100 pounds in boxes nearly ready to take off. SMITH TALBOT.

Franklin Co., Kansas, Sept. 6, 1875.

MR. THOS. G. NEWMAN:—I received the Sept. number of your valuable Journal in due season, wherein a few enquiries are made to Bee Keepers in general, which I propose to answer:

1. My bees have done but little this season, either in swarms or surplus honey, *because* they were so much reduced in the spring that it has taken all the season for them to *recruit* up *again* to fair condition for wintering.

2. The prospect for the balance of the season will greatly depend on the weather. If we have an early frost nearly all fall flowers will be destroyed in this vicinity, and the honey season may be considered *closed;* but if frost holds off, I presume they will make a fair living but store no surplus.

3. The best three honey plants in this vicinity, are white clover, linden and buckwheat.

4. They usually begin to yield about the 10th of June. White clover continues nearly all the season if the weather is not too dry. Linden usually begins July 10th or 15th and lasts from 3 to 10 *days*, owing to the season. Buckwheat about the 15th of August and usually lasts until about the 10th of September.

With me this has been the poorest season for bees I have known in twenty *years*. The cold weather in the early part of the season destroyed nearly all the *brood*, and the results were but few swarms *issued*.

D. W. FLETCHER.

Tompkins Co., N. Y., Sept. 13, 1875.

DEAR BEE JOURNAL:—I commenced the spring of 1875 with 19 stands—one queenless as the spring was cold, we had to feed our bees, till fruit blossoms came. Then our strongest stocks only made a little more than they consumed. We had to feed again till June 1st, all kinds of clover winter-killed. Our wet season commenced about the 5th of July. About June 15th, I divided two swarms, and on the 22d I had the first natural swarm. In July I had

four more. I divided four swarms about the middle of August, I extracted three quarts. In a few days I took 16 quarts, and after that I filled a 13 gallon can. On the 6th of September I extracted more than that. That night the great storm occurred, doing immense damage everywhere. My first swarm came out August 14th, another on the 17th, and another on Sept. 6th. The first two filled their hives. The September swarm left for parts unknown. I have now 31 swarms in good order. I have taken 125 boxes of good honey, and more than that number are partly full.

Some seasons white clover does well, but I think alsike would do better. There is none here except five acres I sowed three years ago, and eight acres I put in last spring. Linn did well in 1874, but not this year. Hearts-ease or smart-weed does well. It begins to blossom about harvest time and lasts till frost comes. Catnip is a good plant, and blossoms from July 1st till frost. H. M. NOBLE.

Henry Co., Iowa, Sept. 15, 1875.

MR. EDITOR:—In answer to your request in the Sept. No., of THE AMERICAN BEE JOURNAL, I will say:

1. From July 2nd to 31st, I increased 33 per cent.

The bees commenced to store honey in boxes, about the first of August. On Sept. 12th, I took 130 pounds of box honey from them.

2. I think, I have on my hives five or six hundred pounds at this date. My bees are all in good condition for winter, and I presume the season has about closed.

3. The three best honey plants in my locality are mustard or rape in flax, which blooms about the 12th of June and lasts about three weeks. Corn tassels, about the 25th of July. Wild ladies'-finger, about the first of August, also buckwheat.

All bloom at the same time, and furnish some honey at this date. Wild artichokes are perhaps the best pasture at present, and will continue until frost.

T. N. MARQUIS.

Iroquois Co., Ill., Sept. 17, 1875.

ANSWERS TO QUESTIONS in the September number:

1. Bought seven colonies of bees last spring (hybrids) from Shearer; paid $100 for them. Have now 13 colonies, all in good condition. Have taken 200 lb linn honey and 600 lb buckwheat honey. The early part of this season was very bad. The grasshoppers killed everything. The fall is good.

2. The honey season is about over now; with plenty of stores to winter on.

3. Linn, white clover and buckwheat.

4. Can not answer, as this is my first experience. P. H. BOHART.

Platt Co., Mo., September 16, 1875.

IN the past season we had a large crop of white clover, and just at the time when we felt sure of a large crop of honey, heavy showers of rain came upon us and washed the blossoms off. As basswood did not yield us much honey, and but little buckwheat is raised in this section, our hopes were blasted. We got but a little more than a half of crop of honey, and only about one half of our stocks swarmed.

We have many kinds of honey-producing plants, but we depend mostly on white clover and basswood for our honey.

Our first honey comes from apple and other fruit blossoms, about the last of May. White clover comes on about the middle of June, and lasts until August, basswood in July, buckwheat from the middle of August to the first of September, and then comes in yellow weed, golden rod and some other weeds; this allows the bees to gather some honey up to about the tenth of September, but not more than they use after August.

I think bees have plenty of stores for winter, and are generally in good condition in this section. I now have 130 stocks. R. BACON.

Oneida Co., N. Y., Sept. 20, 1875.

THOMAS G. NEWMAN—*Dear Sir:* In reply to your "Special" in the Sept. No., I will report:

1. Not good, had to feed a part of my stocks during the summer, up to August 1st. From August 14th to September 1st, they filled the hives *full* and stored some in boxes, and swarmed during that time, and up to 12th of September, most of them returned.

2. Do not expect any more surplus. The nights are too cold.

3. White clover, basswood, and hearts-ease.

4. May 25th for clover, which lasts from four to six weeks. Basswood in July, which yields honey for about 12 or 15 days. Then nothing special till the middle of August. We then have hearts-ease, which lasts till the first frost.

E. H. MILLER.

LaSalle Co., Ill., September 18, 1875.

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1. My bees did rather poorly till August 20; since then first rate. Commenced with two colonies in the spring, have now twenty, five of which I purchased lately. All but a few nuclei are quite strong. Have extracted over 100 lbs and am adding to it daily.

2. Prospect very good.

3. *Upatorium alba*, August 20th, September 25th; Spanish-needle, September 1st to October 1st; lady-finger, hearts-ease and big smart-weed, from August 20th till frost comes. W. ARMS, M. D.

Perry Co., Ill., Sept. 14th, 1875.

MR. EDITOR:—The season has not been as good a one for bees in this section as it was last year.

I commenced the season with 18 colonies, two of them very weak; have taken up to date 27 swarms, mostly natural, 1,122 lbs extracted honey, and 133 lbs comb honey. I shall take yet, at least, 200 lbs comb and extracted honey. Mine are mostly black bees.

The three best honey plants here are: white clover, basswood and buckwheat. White clover commences about the middle of June and yields honey probably on an average three weeks. Basswood commences the 20th July and yields honey about two weeks. Buckwheat comes on right after basswood. From that and wild flowers, we generally have honey till frost.

J. I. PARENT.

Saratoga Co., N. Y., Sept. 10, 1875.

I began this spring with one stand, I lost the others in the latter part of the winter. I have taken 31 lbs of honey in boxes. The last two I found were not quite full, so I put them back, and in the last two weeks they have taken almost all the honey out of them. They did not send off any swarm until the 19th of *last month*.

"The prospects for the balance of the season" are a colony to feed. They are in a Langstroth hive, have about half filled three frames and have brood nicely started.

Fall flowers just now are abundant. White clover is, I think, our best honey plant. That and fruit blossoms of various kinds. Bee-keeping is not much of a business in this part of the country, and attention to honey-producing plants is not an object. There is very little buckwheat to be seen.

J.

Chester Co., Pa., Sept. 10, 1875.

ED. JOURNAL:—Answers to your questions in September number of AMERICAN BEE JOURNAL

1. About 25 lbs per hive surplus and increase of ½.
2. Good.
3. Poplar, linn and white clover.
4. Poplar about the 1st of June, lasts two weeks. White clover from May 20 till July 10. Linn from July 5 to 15. Not always a sure crop, but *very* good this season.

E. W. HALE.

Wirt Co., W. Va., Sept. 8, 1875.

In response to the call in your September number, I have to say that, contrary to the general report, the honey season in this vicinity has been favorable.

This being my second year as an apiarist, and having no educator, my bees could not be expected to do any thing very large. I took from the cellar, in the spring, four hives (Italian bees) and divided, May 30th, making eight.

July 6th, one hive swarmed, and another a few days after. At this time the clover honey was coming in very briskly, and at the same time, part of the hives became cramped for breeding room. Two of them had at one time almost no brood.

The 13th of August my heaviest young hive sent out an immense swarm. After having hived it, I gave it no attention till September 1st, when I found it full of comb, honey and brood in all stages. I took off my first surplus, July 28th, I have taken off three hundred pounds to date and expect from sixty to a hundred pounds more, if the fall is favorable.

I think this a fair yield considering inexperience and the condition of my hives generally. Two of the divided stocks having failed to mature their queens, and two swarming just as they were nicely established in the surplus. I intended when I divided that, that it would be all the *swarming* necessary.

The principal honey-yielding plants are, white clover, which blossoms in June, and, this season, is still in blossom. Buckwheat which yielded till August 21st, and then congealed. Golden rod is a fall honey-yielder. I have seen bees on catnip for six weeks or more, but as to whether it is plentiful enough to yield much honey or not, I cannot say. Three miles east of this village, forest trees abound, among them, bass-wood, which would doubtless in its season, pay an interprising beeist with a large apiary and diligent extracting.

C. B. BILLINGHURST.

Dodge Co., Wis., Sept. 13, 1875.

Bees in Northern Iowa have done well since July 15. Then basswood came in blossom, and lasted twenty days—five days longer than usual. I extracted 7,000 lbs. in ten days, and will have 1,500 lbs. comb-honey. The hives are all heavy, and still they are gathering more honey than they use. They are now killing the drones, and are breeding rapidly yet, and are in splendid condition for wintering.

J. W. LINDLEY.

Mitchell Co., Iowa, Sept. 16, 1875.

I sold my bees down to fifty swarms last spring. I have now one hundred and ten swarms, mostly pure Italians. It has been a poor season for honey. They made honey just fast enough to breed. All that I divided in June, have thrown off large swarms. They are now to work in boxes for the first time this season. I don't allow any hive to swarm but once, if we have good weather. Through September I will get some box honey, and all will be in good condition for wintering.

FRANK SEARLES.

Will Co., Ill., Aug. 29, 1875.

I have obtained good amount of bee knowledge from THE AMERICAN BEE JOURNAL, and, I think now, that I could not get along without it. I put out last spring seven Italian swarms, have now twenty-one, and have taken 600 lbs of honey, mostly extracted. I think it has been a very good season for bees here, so far.

The prospects for the balance of the season is good. We have had no frost here on the river to hurt anything; yet the woods are full of fall flowers and bees are gathering honey very fast now.

Our three best honey plants, *I think*, are basswood, wild balm and white clover. Clover blossomed about the middle of June and is still in bloom. Basswood about the 10th of July, and lasted about fifteen days. Balm is in bloom now. This is the first year I ever attempted to study the habits of honey-producing plants, so I can't give you much upon the subject.

I tried bee-keeping for a long time with common bees, but could not get ahead. One year ago last spring, I obtained an Italian swarm and Italianized my bees, and have gone right ahead without trouble. If I was to start again, I would rather pay $25 for an Italian swarm, than to have a black swarm for nothing. I use Langstroth hive, frame 10x16, eight frames to the hive. I am going to put on another story, next year, just the same size, to extract from. H. F. WALTON.

Grant Co., Wis., Sept. 6, 1875.

DEAR EDITOR:—I wintered 19 colonies of bees in good condition, from which I obtained 32 natural swarms, having now in all 51 colonies. I have extracted over a ton of honey, up to date—the honey nets me 20 cents per lb at home.

Counting each swarm of the increase worth $10.00, as I can sell at that price readily for cash, the figures stand:

32 swarms @ $10.00	$320.00
2,000 lbs. of honey @ 20 cents	400.00
	$720.00

The above figures show for themselves. —The prospect for a further surplus yield is not flattering, owing to a light frost on the 22nd of August which injured the honey-producing plants and for the last 10 days the weather has been rainy, keeping the bees at home from their labors. However, if the weather becomes warm and clear, I anticipate quite a yield this month.

Our three principal honey-producing plants are: white clover, basswood, and golden rod.

White clover begins to blossom about the 10th of May and continues till September, but the bees will leave it for the basswood, which blossoms about the 15th of July and continues about 8 or 10 days. Goldenrod blossoms about the 15th of August and continues till the frost. We have many other native trees and plants of minor importance, and with a judicious selection of cultivated plants that yield honey, selected with a view to fill up space, where the native plants fall off in yield, this may be counted a very fair country for bees.

In connection with the above I would state, I have not given my bees the attention they ought to have; as the time allotted to work with them has been in the morning before 8 o'clock, and in the evening after 5. The remainder of the day I have been occupied in my office.

I notice, that a note I wrote in relation to the foundation-comb, found its way into the JOURNAL. I would now correct a statement which I then deemed to be a fact, viz.: I thought the price too great for its use with profit, except by cutting into inch strips for starting, but as I have now given it a full trial for one season, I firmly believe that if I had bought $50.00 worth for the use of my young swarms and for the surplus sections to my hives, I would have taken at least $200.00 worth, or half ton more of honey, besides the benefit of getting perfectly straight comb, without any trouble. The foundation comb is a great invention, and I shall buy liberally of it next season.

I bought a tested Italian queen from Mrs. Tupper this season and it is the handsomest and most prolific queen I ever handled, and I have handled many.

I. INGMUNDSON.

Mower Co., Minn., Sept. 6th, 1875.

I commenced with 17 swarms this spring; have increased to 44. I think they will give about 100 pounds of honey, on an average, not so much box honey as last year. I think the cause is the cold nights. There is an abundance of white clover and basswood, and plenty of wild plants that they work in the fall.

JOHN CARDINAL.

Brown Co., Wis., Sept. 15, 1875.

DEAR JOURNAL:—In answer to your request, I would say that I had twenty hives of bees in the spring, and on the 15th of June, I divided a part, and on the 25th they began to swarm, and on the 25th of July the last swarmed. I have in all, now, twenty-six new hives. The white clover being killed in the winter, my bees did not make much cup honey, not to exceed 300 lbs. There was no basswood trees near us—teasles and buckwheat are the main flowers here. My neighbors, who live near linden trees, have done much better. Best honey is worth 25 cents, and poor 16 to 20 cents.

A. WILSON.

Onondaga Co., N. Y., Sept. 5, 1875.

EDITOR AMERICAN BEE JOURNAL:—As you request, and say you mean me, I write. And if I say too much, please attribute it to the fact that I am but a novice in apiculture. My success has been as enormous this year as my failures have been in years gone by. I commenced with three stands, last spring. I have fourteen now, with enough bees for five more. One early swarm went to the woods, and I put two swarms back in the hive they came out of, as I want surplus honey instead of so many bees. But I shall make about two more swarms yet this fall. I presume you can guess I have not got much surplus honey, probably 100 lbs., and if we have a late fall, for which we have a prospect, I will get 400 lbs. more. I have not used the extractor much, owing to my bees breeding so profusely. Here, we almost invariably get our surplus honey late in the season.

I think golden rod is the best honey plant here. When we have a wet year, smart-weed is probably the best. Where buckwheat is sown it generally furnishes a fair yield of honey. White clover is getting plenty, but does not amount to much as a honey plant. We have rather plenty of linn that once in a while does splendid. This year its bloom only lasted for a day or two. The corn tassel formed a fair supply of honey and pollen. But smart-weed is ahead, this year, of everything in this locality.

My bees are hybrids; some stands tolerably good Italians, some nearly black. This has been the best year for profitable bee-keeping we have had for several years. But observation and experience has taught me to make haste slowly, in this locality, as our seasons are too variable to make apiculture a sure and successful avocation. ISAAC S. BRYANT.

Harrison Co., Mo., Sept. 6, 1875.

In accordance with your request, I send you my experience and prospects for the present year. I came out of the winter with but one stand, but I resolved to make the most of *it*. It had honey enough to carry it into the working season, but I fed it daily about a gill of sugar syrup until fruit blossoms came, and for some time afterwards, on days that they could not work out-doors. On the 15th of June it swarmed, and I gave the new swarm a frame of brood from the parent stock. This gave me No. 2. June 24 it swarmed again, giving me No. 3. On the 28th it swarmed again. On the same day I divided No. 2, and gave one part a card containing a sealed queen cell from No. 1. Thinking it about time to stop any further swarming, I resolved to destroy all the surplus queen cells in No. 1; but on opening it I found them still strong in numbers. I changed my mind, and after taking the above mentioned card, I closed it up. But before I got through, the swarm last came out came back. This left me with fear. On another occasion a swarm came out and went back. On the 26th of August No. 4 swarmed, and September 3, No. 3 swarmed, which gave me No. 6 from the one original stock, and all are strong in numbers and are gathering pollen vigorously. All except the last two, judging from the weight of them, will keep themselves over winter. I think I can well afford to feed the last two, but if frost stays off till the 1st of October, I think, they will make enough to keep them. I have had no box honey, but the old stock are beginning to work in one box. If I get no surplus, I think, I am doing well enough. The general cry here is, "I never saw so poor a year for honey," but I do not think so. If honey had been more plenty they would perhaps have filled their combs with honey to the exclusion of brood raising. Had there been less we would have had but little honey or increase. I attribute my success to spring feeding. And now for my plan of feeding: I bored an inch and a half hole through a block of soft maple wood, lengthwise; planed it down to two inches square; made a hole in the honey board to fit it; placed a piece of muslin over one end and inserted it, and poured the syrup in the other end. Am I infringing on anybody's patent? Have never seen any of the patent feeders.

The three best honey producing plants here are the white clover, alsike and motherwort, though the latter is not very plenty. The only one that I know of getting any surplus honey, is one living in the vicinity of the motherwort and the dreaded milk-weed. I tried a patch of rape, but it did not meet my expectations. The alsike clover is excellent while it lasts, but it will not produce a fall bloom unless cut very early. Next year I shall cut part of mine about the middle of June, as an experiment. J. C. ARMSTRONG.

Marshall Co., Iowa, Sept. 5, 1875.

The last winter and spring was the hardest winter and spring on bees I have experienced. In twenty years' practice with the moveable-comb hive, fifteen years queen raising, I never met with such a fall, winter and spring as the past one. Bees stopped breeding early in the fall; I went into winter quarters with old bees; I then supposed we would have weak colonies in the spring, which was the case. On my return from the convention at Pittsburgh, I got a fall which crippled me so that I could not give my bees the care they needed for two months. In the winter they had to care for themselves; out of seventy-six colonies I had but forty-two left in the spring, and they commenced

breeding finely, but the cold snap in April came and froze the brood. They dwindled so that I had to double up, so I had but thirty left to commence with, and weak at that. I procured a few stocks of black bees; they gathered only enough to keep breeding, but gave but little surplus. I increased them to eighty full stocks and thirty-two nuclei.

The clover and basswood yielded honey but a short time, on account of so much rain; but bees are rapidly collecting honey now from fall flowers, and will give considerable surplus, if it holds favorable for a few weeks longer.

G. W. ZIMMERMAN.

Henry Co., Ohio, Sept. 8, 1875.

MR. EDITOR:—In response to your request in the September number of the A. B. J., I would say:

1. This has been the best season for honey we have had for several years. It was too wet for three weeks in July, but since that it has been splendid. I had a swarm the 2d of August, and now it will weigh eighty or ninety pounds. I think from the present outlook I will get from thirty to seventy-five pounds per hive. I kept my hives well shaded, and gave them plenty of room, consequently they have not swarmed much.

2. The prospect for the balance of the season is good.

3. White clover, smart-weed and Spanish needle.

4. Clover begins the last of May, and if not too dry, lasts till frost. Smart-weed begins the middle of July and lasts till frost. Spanish needle, the middle of August, and lasts about three weeks.

SAMUEL W. LORD.

Macoupin Co., Ill., Sept. 4, 1875.

I commenced last spring with one stand, and now I have seven good, strong swarms, all doing splendidly. I would have had eight, but one swarm I could not prevail upon to settle; that, of course, I lost. Have stopped one swarm's issuing by cutting out queens' cells, and am now trying another, as it is so late, but the honey harvest is splendid, and has been for over a month. They all have their hives filled. The last swarm issued August 23, and it has four racks nearly filled. I have turned the boxes on hives that are full, and some are beginning to make comb. If the honey season lasts, or if it remains warm through this month, I expect to take surplus honey. I fed during the wet weather in the spring, until after the second swarm. I fed just whenever I thought the rains had been of sufficient length for them to consume their little stores. For our rainy days far out-numbered our pleasant ones—days that they could not work. MRS. HATTIE SMITH.

Bureau Co., Ill., Sept. 4, 1875.

1. Bees in this section have done exceedingly well this season, especially since the middle of July. I had eight swarms of pure Italians in tolerable condition, wintered in the cellar. I let them out March 29, 1875, the outer combs somewhat mouldy. First swarm, May 25; second, June 2. Spring cold and backward. Middle of June our wet spell commenced, when bees could do but little. Although I made several swarms by artificial means, yet they seemed hardly to make a living, until about the 1st of August, since which time the weather has been very favorable—quite warm, with heavy dews. My increase in stocks has been far beyond my expectations, (from eight to twenty-five, besides three that ran off to the woods,) one swarm as late as September 20. With one or two exceptions they are all strong in bees and stores, some weighing two hundred pounds or more.

2. Bees may or may not gather more stores. We have had no frost as yet, but to-day the weather is cooler.

3. Buckwheat is our best honey plant, this season. Clover the next, and third, the innumerable wild flowers growing in our weedy cornfields, and along the roadside.

A. U. CROSBY.

Marion Co., Iowa, Sept. 11, 1875.

My bees have done well, both in swarms and honey. I bought seven swarms this spring, and have increased to sixteen swarms; they are doing finely in boxes. I have some hives that I shall get 130 lbs. of honey from. The honey season is almost over. I shall take my honey off next week.

Honey plants, fruit blossoms commence May 15 to 20, and continues from fifteen to twenty days. White clover commences June 10 to 20, and continue till the end of July. Buckwheat commences August 1, and continues till September.

AMOS B. SIMPKINS.

Schoharie Co., N. Y., Sept. 4, 1875.

It has been below an average honey season, with very few natural swarms.

It has been very dry in this locality for some time past, which cut off the supply. About the only remaining resource is boneset, of which there is considerable in this section. No buckwheat is raised here. I predict serious losses, unless prevented by judicious feeding.

White clover, poplar and linden.

This season, the white clover and linden yielded but little, probably not as much as raspberry, of which there is a large amount, both cultivated and wild. There is usually an abundance of fruit blossoms for early pasturage, but the fruit crop was a total failure this season, while the weather often prevented bees from working while the fruit trees were in bloom.

WARREN PIERCE.

Portage Co., Ohio, Sept. 3, 1875.

DEAR SIR:—In answer to your questions: 1. I have taken 3,000 pounds with the *extractor*, and 1,000 of box honey. I wintered eighty stocks and sold three in the spring, leaving seventy-seven. They increased to one hundred and four. I sold six new stocks in July, leaving ninety-eight. I only intend to winter eighty stocks this winter

2. They are filling up for winter now.

3. The three best honey plants in the locality are *white clover*, *red clover and buckwheat*.

4. White clover about the 15th of June until the 15th of July. Red clover, second crop commencing 15th of August, continuing until 5th of September. *Buckwheat*, nearly the same as *red clover*.

E. BROWN.

Norfolk Co., Ont., Sept. 13, 1875.

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1. In the spring had five good swarms left, losing two in springing and by robbing. March 22 two of the stocks lost their queens, and it was about *three months* before I got good laying queens. Raised one batch, no drones, queens good for nothing, of course. Second lot fertilized all right, began laying, soon stopped, and the bees raised a new lot, which are all right. Bought two nuclei stocks, and made three new ones. Now have ten good stocks, two whose new queens will soon be laying if all goes well. Just honey enough to keep bees breeding nicely, with a little feeding, till August 8, when buckwheat began to bloom. Since then, bees have filled their hives full enough for winter, and we have taken 95 lbs. honey, all told, while keeping the brood nest free from honey.

2. The prospect for the balance of the season is good. Having eight acres of buckwheat still in bloom, with an abundance of heart's-ease and small amounts of aster, golden-rod and white clover, if we can have a few weeks of good weather, to get it.

3. Our best honey plants are buckwheat, heart's-ease, white clover and basswood. The first one gives us a good yield, then the other, then both, though I know of but five basswood trees in reach of our bees. Neither white clover or basswood comes up to buckwheat, with us. White clover began to bloom May 19, 1874, and June 9, this year, and we still have a considerable of it in bloom now. Heart's-ease began to bloom July 11, and continues till hard frosts come. Buckwheat begins about August 8, and blooms till frost comes, generally.

WILL M. KELLOGG.

Knox Co., Ill., Aug. 5, 1875.

In this section of country bees had done very well till August 22, when a very severe frost killed most of our honey-producing plants. We began the season with fifty-eight stocks, some quite reduced in numbers; have increased to ninety-six, mostly in good condition. We will probably have from 1,500 to 2,500 lbs. of surplus box honey. Chinese mustard, catnip and mignonette will continue in bloom until very cold weather; furnishing a sufficient quantity of honey to keep the bees in a prosperous condition and store some surplus honey.

Chinese mustard, mignonette and common mustard are our three greatest honey-producing plants. They are of easy culture, and will withstand very heavy frosts without injury. We have a field of Chinese mustard, sowed May 5, and it is still in bloom and swarming with bees, besides it is a most remunerative field crop. Mignonette, sowed May 5, was first visited by bees July 10. It is in full bloom and literally covered with bees. Common or brown mustard, sowed May 28, began to yield honey, July 17, and continued about fifty days. It is much inferior to the Chinese in every particular, but is profitable also as a field crop; it ripens unevenly and shells badly. CHAS. F. LANE.

Rock Co., Wis., Sept. 6, 1875.

My success in bee-keeping the present season is as follows:

Last spring I had ten swarms, have had nine new ones in all 19. About 300 pounds of box honey, up to the 22d of August. While the buckwheat was in full bloom, we had a frost that put a stop to all honey-gathering for a few days; but now (Sept. 9th) it is wet and warm and the white clover is coming in blossom again, and the bees have again resumed the surplus boxes and are working finely. My bees are all black.

White clover and buckwheat are our only dependence for honey. There are, at present, some small flowers such as catnip, heart's-ease and malice. White clover comes into bloom about the 20th of June, and lasts from two to six weeks. Buckwheat is sown here about the last of June, and is in bloom about the middle of August.

CHAPIN ALDRICH.

Rock Co., Wis., Sept. 9, 1875.

There was no surplus honey during the whole season until August 15 to 20, caused undoubtly from continuous wet weather, but from the 20th of August to 9th of Sept. the flow of honey was very good, but since the last date, they have done but little in boxes. I have taken 320 in boxes *finished*, and about 450 in boxes not yet full, but will be in eight to ten days, if heavy frost does not cut off the flowers.

August 28, extracted the first, and to yesterday Sept. 15, have taken 1,503, and all the hives extracted to Sept. 8th, are full and sealed, and those since, are in a very fair condition to fill up in a few days. I

am taking from 60 to 100 lbs. daily, and will continue as long as the bees are gathering the present amount. They are working splendidly this P. M., it being warm and pleasant. After another heavy rain last night.

The best honey-producing plants in this section are white clover, linden, smartweed and Spanish needle. Buckwheat is usually good, but little is cultivated in this vicinity. White clover generally begins to bloom 15th to 20th of May, and continues till frost. It has been in its prime since August 20th to Sept. 10, (this season is an exception). Linden about Jun. 20th to 25th (varies 10 to 15 days some years) and continues 10 to 12 days. Smartweed, very abundant, begins about August 15 and continues until frost. Spanish needle grows chiefly after harvest and summer *plowing* (quite plentiful) and is now in full bloom, and continues until frost.

Other varieties of honey-producing plants, such as are found in an agricultural and fruit region are abundant, and yield more or less honey in their seasons.

WM. REYNOLDS.

McLean Co., Ill., Sept. 16, 1875.

DEAR EDITOR:—As requested in the September number, I send answers to your questions:

I commenced the season with 66 swarms, seven or eight quite light, have but just built up, have increased to 138 swarms. From 38 swarms (ten of them young ones) with the extractor, I have taken, up to the first of August, a trifle over 5,100 and about 500 of comb honey. I shall probably get three or four hundred more when I put up for winter.

The three best honey plants, are white clover, basswood and golden-rod.

Clover blooms about the first of June and continues, if not too dry, until September. Basswood usually blooms about the 10th of July and lasts about ten days. This season it did not bloom until about the 15th and bloomed about two weeks. Golden-rod blooms about the middle of August and is in bloom about three weeks.

A. H. HART.

Outagamie Co., Wis., Sept. 15, 1875.

Bees in this locality gathered but little more honey than they consumed up to the twentieth of August. Since that time up date, they have nearly filled up there hives with honey, and stored considerable in surplus boxes. White clover is our main source of honey, was nearly all killed during the past winter. Fruit bloom was an entire failure with us. There is but little basswood or linn here, except on bottom land along the streams. What little we have, generally produces abundance of honey, but this year it rained nearly all the time it was in bloom.

I consider the basswood or linden the best tree we have for honey, and should be extensively propagated by every bee-keeper. It is easely propagated by transplanting from the woods or from the seed. Trees that I transplanted from the woods three years ago, were full of bloom this year. This tree comes in bloom about the tenth of July, and remains about two weeks. I have so much faith in it that I intend to plant several bushels of seed this fall, and set out wherever I want shade trees, or have waist land. Alsike and white clover are the best cereals we can cultivate for producing honey. I wonld recommend mixing alsike and white clover seed with all grasses sowed on the farm.

AARON BENEDICT.

Morrow Co., O., Sept. 7, 1875.

Bees in this vicinity wintered very poorly on their summer stands. Some bee men losing all or nearly all they had. I put into my bee-house last fall 35 colonies. When I set them out this spring I had lost two, but I afterwards lost five more through the month of April, on account of a very cold snap. Bees did nothing during the time of fruit blossoms. Fruit buds being nearly all killed by the frost.

White clover began to blossom about the first of June. Bees began building up very fast. Rather too much rain for bees to do well. Bees are yet working on white clover. Bees have begun working on buckwheat, they come in so heavy loaded they can hardly reach the hive. I sowed a small patch of rape this spring. At this writing the bees are busy at work on it.

Taking this season all through, bees have and are doing better than for several years past.

My bees have stored a fine lot of box honey. I have never used an extractor but am confident it would pay many times over. I now have forty colonies in good condition and a number of nuclei hives containing four frames of comb. No preventing providence, I expect to go into winter quarters with fifty colonies in good condition, and a nice lot of box honey.

LEONIDAS CARSON.

Mahoning Co., O., Aug. 15, 1875.

MR. EDITOR:—I will give you my experience in bee-keeping this season:

This spring I began with thirty-three swarms; six of them quite feeble, and twenty-seven fair. May 20th my first swarm came out, and the 30th a second one from the same hive. From that time the rest continued to swarm until Aug. 18. Now I have ninety swarms, with plenty of honey to carry them through till flowers come again, but it needs to be equalized.

My bees are not in very good condition for wintering, some are *almost* destitute of

brood and quite a number entirely so; about half a dozen have no queens. It is now so late in the season, I hardly know what to do for them.

I have extracted 610 pounds of honey, have 540 pounds in box, making 1150 pounds for the season. This year has not been favorable for the production of honey. The hard winter and severe spring having killed almost all the white clover, and fruit blossoms were scarce. Basswood was good for six or eight days, but buckwheat was not very good, in consequence of cold nights. My bees are hybrids.

L. BURDICK.

Kalamazoo Co., Mich., Sept. 18, 1875.

ED. AMERICAN BEE JOURNAL:—Supposing myself included in your request for a bee and honey report, I respond as follows: Commenced the season with 10 stocks in American hives, none complete. I had eight frames, one four, and the rest, five, six and seven, I cannot say exactly as to each one. Nine frames complete the hive, I now have 40 colonies, 15 in double American hives, of 18 frames, and four in single hives full and one of five frames, all strong in bees, but I do not think they have enough stores now to winter on, but the prospect is they will have a great abundance and an overplus, if frost holds off awhile longer. I have taken 2186 lbs of extracted honey and 250 lbs of cup honey. Had three first swarms go to the woods.

As to our honey plants and their time of yield, I am hardly competent to tell.

We have almost everything that yields honey in its season, though the bees got no surplus from fruit this year. Two thirds of the honey was gathered in August. I would have waited and written a complete report after the season was over, and bees in winter quarters, but since you asked for an October report from all, I give such as I can and as far as I can, to date. MRS. M. A. BILLS.

Hillsdale Co., Mich., Sept. 14, 1875.

Our natural resources for honey, on the prairie in the latter half of August, is the golden-rod, and another weed resembling it. Also he summer catnip, smart-weed and Spanish needle. Our cultivated resources are: buckwheat, raspberries and the clovers and mustard. I have now six strong colonies from two strong ones last spring. All the honey stored was by a July swarm, 24 lbs. The season has been too dry or too wet, nearly all the time.

S. W. HALL.

Marshall Co., Iowa, Sept. 14, 1875.

MESSRS. EDITORS. — According to request, I send you a report of my apiary. I commenced the season with 75 colonies in fair condition. There was no dwindling among them; but they got strong in May, when alas! there was no honey for them to gather. Locust, clover, and basswood were nearly a total failure. Bees did not get enough for breeding purposes, till buckwheat came into bloom, when they commenced breeding rapidly. This has been the poorest season for queen rearing that I ever saw. By considerable effort my colonies were all supplied with daughters of my imported stock. They are the best I ever saw; not a single sorry queen among the whole. I have taken 6,500 lbs. of honey; the largest yield from any hive is 120 lbs; average 86; with us the season has closed.

We have white clover, basswood, Spanish needle, and smart-weed, and many other blossoms of minor importance.

Clover usually commences to furnish honey about the 20th of May, and lasts about five weeks; basswood about the 20th of June, and lasts ten days; smart-weed about the 10th of August, and lasts about four weeks; Spanish needle about the 20th of August, and lasts two weeks.

We have increased our colonies this season about 50 per cent. and more tha. doubled our combs. We shall have about 110 to 115 colonies to winter.

E. C. L. LARCH, M. D.

Boone Co., Mo., Sept. 14, 1875.

Our season, to 1st of August, was very poor, giving very little surplus. Since that time to date, I have extracted one bbl, about 400 lbs, and my hives are very full now; in fact every cell is full, and as fast as a young bee hatches out, the cell is filled with honey, before the queen can have time to deposit an egg.

Fruit blossoms, white clover and fall flowers, mostly smart-weed, are our best honey-producers. Fruit blossoms commence about 10th of April, and continue till about the 1st of May; then white clover commences about 1st to 15th of May, and continues till about 1st of August, if not too dry; and then our fall flowers (various) continue till frost. We have other varieties, but these are the principal ones. Wishing success to your JOURNAL, and that it may never grow less. WM. G. SMITH.

St. Louis, Mo., Sept. 3, 1875.

In answer to the inquiries in the last issue of THE JOURNAL, let me say:

1. We have had a fair yield of honey, up to date. I had only four swarms from 30 colonies.

2. Not flattering; too cold; slight frost this morning.

3. White clover, 1st of June; lasts for about 25 days; yields honey.

Linn or basswood, from June 25 to July 10,—15 days.

Buckwheat, 30 days for the same sowing. WM. HEALD.

Van Buren Co., Iowa, Sept. 18, 1875.

I had 40 stands in the Spring; 62 at this date. 1,500 lbs. box honey; extracted 350 lbs.; probably will take 200 more. Raspberry and white clover are about equal.

Raspberry blooms from June 1st to July 1st; clover from June 1st until September 1st; basswood blooms July 20th, and lasts two or three weeks; buckwheat blooms from August 1st to September 1st.

GEO. H. SPRAGUE.

Steuben Co., N. Y., Sept. 11, 1875.

Linden, white clover and fruit blossoms, *usually*, afford us honey. This year linden and fruit blossoms were almost an entire failure, leaving white clover, golden-rod, "heart's-ease" or smart-weed, and black locust. Four miles west of here, buck-eye, white clover, heart's-ease and golden-rod produced honey in this order.

J. E. RICHIE.

Allen County, Ohio.

DEAR JOURNAL:—In answer to the "Special" questions to your readers, I will say:

1. Honey and swarms are a failure. Had twelve colonies last spring; no increase. Did not gather enough to breed without feeding till buckwheat came, and shall have to feed for the winter.

2. The above answers this.

3. White clover, locust and catnip.

4. This is my first season here, and the clover and locust yielding no honey, I can't answer. Catnip began to yield honey in June and continued till the first of this month, but only a little, not enough to furnish a supply, although there is a large quantity of it here.

I am just outside Cincinnati city limits, ¾ of a mile from the little Miami river, and the same distance from the Ohio river, and about seven miles from Chas. F. Muth's.

My colonies are strong, but I have a constant fight with the moth.

A. B. MASON.

Hamilton Co., O., Sept. 17, 1875.

DEAR SIR:—In answer to your "Special" to readers, I would say:

1. The season has been very unfavorable to both honey and swarms. The frost and cold late spring prevenred the bees reaching swarming strength, or prevented swarming if they did reach it, (except a few strong stocks) until the last of June or 1st of July. The blooming of the sourwood, together with the honey obtained from sumach, second crop of white clover and persimmon, brought swarms from such stands as had *almost* reached swarming strength in May. Such swarms, and the stocks throwing off the swarms *must be fed* in this locality, through August, to have them in proper condition to gather enough honey from fall blooms, to spare their owner some honey and pass safely through the winter; and the man that refuses to feed such swarms and old stocks, is "penny wise and pound foolish"! I have taken only 100 lbs of honey from 44 stocks; have had 26 swarms, and lost one.

2. Prospect for the balance of the season is good, if brood rearing is kept up through August; bees here *invariably* get rich in September and October, and you can winter and spring them without housing or further attention.

3. The best three honey plants, I think, are poplar, white clover, and still-weed or aster. The aster, our great and reliable honey plant, commences secreting honey 15th to 17th of September, and continues till killing frosts, *and a few days after*, usually about 30 days. I cannot give the dates of the others. W. H. RIGGS.

Hamilton Co., Tenn., Sept. 14, 1875.

I started in the spring with 12 stands of bees; increased to 27, by both natural and artificial swarming. Had to feed as late as July 1st. Bees gathered little honey till buckwheat bloomed. Have had swarms store over fifty pounds of surplus from that source, and they are still bringing it in.

Golden-rod bloomed about the middle of August. Am using small frames for surplus and am extracting the buckwheat honey from them, with the expectation of having them filled with golden-rod honey.

Our best three plants for honey are the white clover, buckwheat and golden-rod. I find the bees work very freely on catnip and alsike clover. Have planted nine acres of alsike, and ½ acre of melilot. Have not observed closely enough to be able to state the time of blooming.

E. A. ZIMMERMAN.

Cook Co., Ill., Sept. 4, 1875.

MR. EDITOR:—In reply to the questions propounded in the September number, I would say:

1. Up to the time the rains set in, my success was all I could wish; since that time bees have done little or nothing. I had, in the spring, 66 colonies, but reduced them by uniting to 44. Total number of pounds taken, 5,006. Have now 106 colonies of bees but will reduce that number to about 90, in order to have them in right condition for wintering.

2. I expect no surplus honey after this. If like other years, will fill the hive for winter stores.

3. Poplar, sour-wood and fall flowers.

4. The poplar blooms the first week in May, and yields honey from 14 to 20 days. Sour-wood blooms about the 25th of June and yields honey nearly a month. Fall flowers just commenced to bloom at this date Sept. 10th. J. F. MONTGOMERY.

Lincoln Co., Tenn., Sept. 10th, 1875.

Last spring I had twenty-four stocks, mostly weak; and three of them queenless. I have raised twenty-four queens and made seventeen swarms. Bees are now in good condition; prospect fair.

Our principal resources is white clover and buckwheat; and these usually yield honey from four to six weeks. This season the drought cut clover short, and the rain nearly spoiled buckwheat.

GEORGE BALL.

Fairfield Co., Conn., Sept. 8, 1875.

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1. I began the season with ten swarms in good working condition, and have now 25 strong hives, working well.

Was delayed in getting my extractor, so that I did not begin to extract until August 10th, and since then have been busy extracting, until I have in comb and extracted honey 1,000 lbs. The flow of honey has been as good as I could desire, and I hardly see how I could have taken more honey, except by pushing things harder, for the bees have done finely for their part.

2. If frost keeps off two weeks longer, the prospect seems to be good. Myriads of flowers are still in bloom, and the buckwheat I have sown has been very fruitful. There seems to have been no lack of flowers all through the season, and there are few common to the northern states that we have not in abundance.

3. Linn, golden-rod, and prairie sunflower abound; and the variety of prairie flowers is so great, that in fact, it is hard to make any distinction. We have little or no clover, some box-elder, and about the only buckwheat sown is what I have introduced, furnishing seed to any one who would sow a patch. E. H. ROGERS.

Dodge Co., Neb., Sept. 10, 1875.

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1. I have received 1,309 lbs strained or extracted; 95 comb, in all 1,404, from 37 weak stands in the Spring, now increased to 76.

2. Fall flowers here hardly ever yield honey.

3. White clover is the main stay; catnip and fruit bloom.

4. When fruit blooms in March and April and the weather is favorable, bees gather considerable, but so fickle is the weather here, that they never gather more from fruit bloom than to live on until about 10th or 15th May, when the white clover appears in bloom, which in some seasons lasts until July 1st, at other seasons only till about 10th June, sometimes only two weeks yielding honey, others eight or nine, and after that yield, the season is generally over.

Until the cold snap in April, bees had never done so well, and but for that I might have obtained a rich harvest. After that they had nothing to work on for about three or four weeks. The long wet spell, set in while I was in the midst of the honey harvest.

My bees were then kept at home about seven weeks and consumed so much honey that I expect to have to feed three-fourths of them for winter, thus taking the larger part of my profits.

R. M. ARGO.

Girard Co., Ky., Sept. 10th, 1875.

The honey harvest in this section has been decidedly *poor*. What little has been stored in surplus boxes is dark, and even red in appearance. This before buckwheat was planted. Will some Penn. apiarian tell us the source of the honey?

Unless buckwheat furnishes a supply, the bees in this section will have a poor chance the coming winter, unless fed.

D. C. MILLETT.

Holmesburg, Pa., Sept. 4, 1875.

I shall get but little surplus, but average increase in bees.

Poor prospect for rest of season.

White clover, blue thistle and sumac. White clover blooms about May 15, and continuing 90 days; blue thistle blooms about June 1st, and lasts all the season; secretes but little honey after harvest; sumac blooms about July 1st, and lasts about two weeks. D. A. PIKE.

Washington Co. Md., Sept. 8, 1875.

From my home apiary I got no honey till linn bloom; my bees (70 hives, 35 of them two-story) were then in good condition. I extracted 3,400 lbs. I had only 10 swarms (one of them natural). The prospect for the rest of the season is good, my hives are filling up, and some have sealed honey. Poplar in May, linn in June and July, with aster in September and October or later. J. F. LOVE.

Marshall Co., Tenn., Sept. 7, 1875.

We started with 75 colonies, Italians, increased by natural swarms to 125; sold off, down to 60 and increased in Aug., by building up nuclei to 110. Extracted 2,000 pounds.

Prospects for balance of the season is, that we shall get 3,000 pounds of extracted honey.

The best three honey producing plants here are: Wild aster, poplar and white clover.

Wild aster begins to yield honey, 15th Sept., and continues usually until 1st November or hard frost; poplar about 15th May, and continues three weeks; white clover about 1st May and continues two months. BARNUM & PEYTON.

Davidson Co., Tenn., Sept. 4, 1875.

☞ We have many more of these letters, but our space is full, and they must wait for the next number.

Notes and Queries

ANSWERS BY MRS. TUPPER.

We wintered 90 stands of bees in our cellar last winter, and all came out alive but one that was queenless in the fall. The cellar was dry and well ventilated, mercury stood from 30 to 40 the greater part of the time, when it sunk to 32. We would build a moderate fire, there was but very little mouldy comb, but some were affected with dysentery, but after getting a fly seemed to get over it. I lost one out of 48 late in the spring, think they left the hive as there was nothing in it but robbers when first discovered.

My object was to get surplus this season, did not divide but one swarm. It is well I did not, as we have had a very wet season. So far my bees seem to get enough to live on and prevent them from uncapping brood (with but little exception), the greater part of them have brood in all the the combs, but very few *any* honey, mostly one or two in each hive has a little, not one out of the 48 can I find that has any to spare. There was an abundant crop of white clover and considerable yet, and I find to-day they are gaining some. Some of them are very strong, fill their six boxes so full I can seldom see what they are doing, and, lay out badly too. And yet I find they are doing but very little. I have taken out drone comb, put in empty frames, etc., and yet they will leave such spaces empty rather than fill it. All the comb they have built this Spring and Summer would not fill one Langstroth frame. I attribute it to the heavy rains; it has been dry for a week and were it not so *late* would have a *hope* they *might* do something yet. My object in writing was to know thy opinion, (knowing thee has lived in the State a number of years, should it be seasonable will they be likely to gather enough to live on until Fall flowers come,) there will be an abundance of smartweed, (very many fields did not get *plowed at all*,) I see it is coming out now. I am well aware that many would say feed, but I do not wish to go to that expense if they will *live without* it, I am sorry to bother any one, but will feel very much gratified to receive a few lines from thee if convenient.

Keokuk Co., Iowa. L. L. VAIL.

We have seen two just such seasons as you describe, while we lived in Washington Co., and in both of these years bees not only filled up but stored much surplus in August and September. There will be constant bloom until frost, and after then, in wet seasons we always have had hot days, just right for secretion of honey. We have had natural swarms as late as the last of August, and one at least in September that filled their hives, and wintered well. The fact that your bees have plenty of brood, shows that they have been gathering a good deal of honey; they could not rear brood without it. We would not advise feeding now unless in case of a long continued storm—then it may be necessary, to save brood. Damp wet weather seems to encourage brood rearing. Wet seasons in Iowa have been our most profitable ones, counting increase and honey, but we have never before this year seen a season when everything has been so discouraging up to date (July 25). Cold dry weather in spring, followed by constant rain—then, when linden came into bloom, and the weather was all that could be desired, a blight came on that bloom *here* and but little honey was gathered. Still we look for much fall honey, and bees that have been kept in good condition to gather it, will still have a harvest time.

D. L. ADAIR, Hawesville, Ky., writes; "Our bees have done nothing until within the last three weeks. They are now doing wonders."—Sept. 20, 1875.

L. C. AXTELL, Roseville, Ill., writes: "We fed to forty-eight colonies one hundred dollars worth of sugar, from apple blossoms, till the first of August. There seemed to be nothing for them to gather. Apple blossoms, white clover and basswood were all a failure here, but buckwheat promises well, and my bees are in fine condition to gather it, and the hives are crowded with brood."—Aug. 18, 1875.

J. S. HARBISON, San Diego, Cal., writes: "The total crop of 1875 will not be over two-thirds that of 1874, notwithstanding the greatly increased numbers of hives over the preceding year. Cause, drought and cold."—Aug. 18, 1875.

L. G. PURVIS, Sidney, Iowa, writes: "I cannot do without THE AMERICAN BEE JOURNAL, as long as I keep bees, and it remains as good as it is now. Bees are doing well here in both increase and surplus. I will give an account of my success when the season ends.—Aug. 20, 1875.

HIRAM ROOP, Carson City, Mich., writes: "To-day the country is white with bloom, but it is cold yet. I got 8000 lbs. extracted honey from fifty-five hives during basswood bloom. I had 105 stocks running for comb honey, but as the season has been so cold, I have concluded to extract nearly all. I will give you my report at the close of the season."—Aug. 21, 1875.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, NOVEMBER, 1875. No. 11.

Seasonable Hints.

During the month of November, though we may have some warm pleasant days, bees will remain quiet and fly out very little. All work with them should have been done before now, and they be disturbed as little as possible. No feeding of liquids should now be done; it is too late to give syrup. We are certain that much of the fatality among bees has been caused by *too much water* in the food, whether it has been fed to them in syrup, or they take it in the honey, which being gathered late in the Fall, has not lost the watery particles by evaporation. We have seen honey in hives, often in this state. The bees when not able to fly and discharge the fœcal matter, are injured by taking too much water. To avoid this, if it is necessary to feed them, give sugar-candy, instead of syrup. We find this the best way of feeding at all times, when bees are not able to fly out every day.

By the middle or last of this month, according to the weather, and time varying of course with the locality, bees must be put into winter quarters or protected on their summer stands. It is not well to house them too early.

A cold time should be chosen to take them in, and they should be moved easily, so as not to stir them up. We have carried fifty hives into a cellar without a buzz from a bee; and then again by an unlucky jar, a colony has been stirred up so that it did not quiet down for hours.

Under favorable conditions, bees in the winter remain very quiet. Any noise from the hive is evidence of discomfort. As long as you do not hear from them you may be sure all is well; but if a constant noise is heard be sure something is wrong.

Much has been said about ventilation in the winter. We have found that very little is necessary where the bee-quilts are kept on. These absorb the moisture as it passes off from the cluster, and yet prevents all draughts through the hive.

After your bees are put away for the winter, let them alone. To those who winter them out of doors, we can only say: be sure that they have plenty of honey in the hive, while at the same time they have empty comb, in which to cluster. It will require much more honey for those left out of doors, and they should, by all means, be sheltered from the rays of the sun upon the entrances. This is more dangerous than cold or snow, as it tempts the bees to activity in weather too chilly for them to fly. We have all seen bee-hives covered with a snow bank for weeks, without injury. Whether bees are in houses, cellars, or out-of-doors, a quilt, carpet or mat, over the tops of the frames, is a great protection worth many times the cost and trouble.

E. S. T.

At this reason of the year, when we are beginning to feel that winter is near and to desire to keep with us, in our homes, some of the bloom of summer, it is well to know just which plants we can best preserve and how to care for them. "Window Gardening," published by H. T. Williams, of the *Horticulturist*, New York, is valuable authority on the treatment of all house plants. We heartily commend it to all lovers of the beautiful.

☞ Many of our subscribers send a request to Mr. Isham for directions for getting up his boxes. Will he kindly send us such description for the next number of THE AMERICAN BEE JOURNAL?

R. WILKIN, of Oskaloosa, Iowa, has removed to San Buenaventura, Ventura Co., California, with two hundred colonies of Italian bees.

Arkansas and Apiculture.

There is, perhaps, no territory of equal proportions to that known as "the South," that is blessed with so many natural advantages, and that has so many possibilities of material prosperity. We have, in common with many apiculturists of this country, often thought that grand and profitable results of bee-keeping would be reached in that section of country, as soon as its true value became known, and the prejudices of former education had been overcome.

Having received an invitation from the Hon. J. M. Loughborough, Land Commissioner of the St. Louis, Iron Mountain and Southern Railroad, at Little Rock, and Col. T. B. Mills, of Little Rock, publisher of the *Spirit of Arkansas*, to accompany an editorial excursion through the State of Arkansas, for the purpose of seeing with our own eyes, things as they were, and of conversing with its people at their homes—the publisher of the AMERICAN BEE JOURNAL accepted, and started on Monday, Sept, 27, for St. Louis, to join the party.

On Tuesday, at 9 P. M., a special train started for the Sunny South, with 150 excursionists, representing that many of the leading papers of the North-west. The train consisted of a powerful engine trimmed with flags, four Pulman Palace Sleeping Cars, one day car, etc., all belonging to the Iron Mountain R. R.

After passing Moark, we came to Judsonia where a Baptist University is located. It is under the charge of the Rev. B. Thomas, M. A., and gives thorough instruction in all useful branches of learning.

Arriving at Little Rock, the capital of the State, at 2:30 P. M. the next day, we enjoyed the hospitalities of Col. Thos. Lafferty, a whole-souled and successful dry goods merchant of that city.

Here we met unexpectedly our old friend JUDSON AUSTIN, Esq., whose pleasant face and mature counsels cheered and smoothed our pathway fifteen years ago.

We also made the pleasant acquaintance of scores of other gentlemen and ladies—only a few of whom we can now mention in particular, for want of space. Chief among these was GEN. H. A. PIERCE, who accompanied the excursion over the State, and made one of the pleasantest companions we ever had the pleasure of meeting. By the way, the General is interested in apiculture, and intends to enter more largely into the business next spring. He says that he knows of no place in the world that is so favorable to bee-keeping as Arkansas. It abounds with bloom from early in March till December; bees need never be removed from their summer stands, and prosper abundantly with but very little attention. He says that if Northern bee-keepers would come down there with their scientific and practical knowledge, they would do vastly more than "astonish the natives." The General introduced us to several other bee-men, and we enjoyed a pleasant chat with them.

In the evening the citizens of Little Rock got up a magnificent complimentary banquet at Concordia Hall, which was decorated with flags on all sides, as well as mottos of welcome. The tables were loaded with delicacies and choice viands, and ornamented with splendid bouquets, provided by the ladies. This was one of the largest and grandest Banquets ever given in that city.

The guests were all Northern men; but a more cordial reception could not be given to them, anywhere in the world. We were especially pleased at the marked demonstrations of the fact that the "late unpleasantness" was over, and that the bone of contention was buried, and that all accepted the situation; and that now a Northerner was as welcome and just as safe there as in any town or city on the continent.

Speeches and toasts followed; we have no room to report them, but will say that the address of welcome was delivered by Gen. R. C. Newton, in an earnest speech. He referred to the button-hole bouquets with which the tables were so beautifully decorated, and which the guests were not slow to appropriate. He then remarked that he was pleased to have eye-witnesses in the State, that the people might be seen as they are; that their manners, habits, etc., might be observed. He wanted the visitors to come often, and come at last to stay. It pleased him to know that we had an opportunity to show the State and the products and the people. The Northwest and the Southwest were now just becoming known to each other, and he was glad to see it, and hoped it would be continued. The State had been built up by nature as an invitation for pluck, capital and enterprise, and he would say: Come and see us—come, and bring "Yankee Doodle," and "Live and Die in Dixie."

After the Banquet, the party left for Malvern, where we breakfasted, and then went on to the celebrated Hot Springs, where another ovation occurred. The citizen's committee met the party at the terminus of the Narrow Gauge R. R., over eight miles of which we passed, and escorted us to Hot Springs, where every attention and comfort was afforded us, and in the evening there was a grand reception ball at the Arlington House.

Here invalids come by hundreds to partake of the invigorating qualities of these "waters of life." Hot Springs has about 4,000 inhabitants, and is a lively and fashionable resort. We visited Arkadelphia,

and participated in a barbeque, provided by the citizens, and then took a trip towards Texarkana. The train halted in a cotton field, where pickers were busy gathering the crop. Many of our party left the cars and conversed with the colored pickers, and inspected, for the first time, one of the cotton fields of the South.

We then returned to Little Rock, breakfasted, and then the party divided, at its own pleasure. A portion, as guests of the Memphis and Little Rock Railroad, went eastward to see the country between the Arkansas and Mississippi rivers, and the other part, as guests of the Little Rock and Fort Smith Railroad, went west to visit the Arkansas coal fields, which are being newly developed there; of these fields there are several—chief of which is the celebrated mine of the "Ouita Coal Company," Our friend, Thos. Lafferty, Esq., of Little Rock, being the managing director. He accompanied the excursion, and took the party through the mine.

We "went west," and were treated like a prince. Theo. Hartman, Esq., Gen. Supt. of the Little Rock and Fort Smith Railroad, took charge of the party, and no man could do more to make it pleasant and agreeable. Under the able management of such a suderintendent, that Railroad must prosper, and become a power in the land. At every station, the inhabitants were out in numbers, exhibiting the fruits of the soil, and tempting us with choice viands. At one of these stopping-places we saw a cucumber weighing 64 pounds, and measuring 13 by 28 inches; at another, corn 14 feet high; at another, prairie grasses 7 feet high, and wheat and oats of large size; at another, stocks of Japanese peas that had produced 200 bushels to the acre. But space and time would fail us to speak of all we saw: our advice to all seeking good bee-locations, is to go down and see for themselves, and then act on their best convictions.

At Little Rock, the party united, and all flew on the rails of comfort, in elegant palace cars, back to St Louis, having enjoyed the pleasure of an excursion of five days, loaded with pleasant memories, and freighted with incidents and facts about a country which is destined to become one of the best, most congenial and profitable on this continent.

In the language of another, we would say: "The climate of the State—her immunity from cyclones, grasshoppers and other pests, the regularity of her seasons show the adaptation of the State to agriculture. Then, the advantages offered to manufacturing enterprise is palpable, with such forests and coal fields, and raw material of every variety. The mineral wealth of the State is of such a character, and crops out so plainly, that the learning of the geologist may be almost dispensed with for practical purposes. The State government, if not all that could be desired, will certainly compare favorably with any other in the Union."

The party passed a vote of thanks to the Railroads, and to Col. Loughborough, the indefatigable and earnest Land Commissioner, as well as to T. B. Mills & Co. editors of the *Spirit of Arkansas*, at Little Rock, and to many others; but want of space forbids the details. At St. Louis, the party separated and repaired to their respective homes and fields of labor, to tell their readers what they had seen and heard.

Honey Plants.

Questions answered by Prof. C. E. Bessey, Professor of Botany, at the State Agricultural College, Ames, Iowa.

Herewith find a branch as broken from two kinds of wild weeds upon which my bees are now working, and getting pollen, if not honey. I would like to know the name and honey-producing capacity of them. J. Stuart.

Webster Co. Mo., Sept. 15, 1875.

The plant with yellow flowers, is a species of golden-rod, probably *solidago canadensis*, although the entire absence of leaves from the specimen renders it somewhat doubtful. It is valuable for honey, as are all the golden-rods.

The violet or purple flowered plant belongs to the general family which includes the mints. It is the common dittany, *canila mariana*. It grows from southern New York, southward and westward. Judging from the value possessed by its relatives, this plant is probably a good honey plant.

You will find enclosed some seed of a weed which the bees work on from the 20th of June, and is in bloom yet; the bees work on it every day. It has a square stalk, hollow in the center and grows from 3 to 4 feet high. The seed and flower are close to the stalk in a bur. Here is a small piece of it, not quite in bloom. I think it yields more honey than catnip.

Port Rowen, Ont. E. Brown.

This appears to be motherwort, (*leonurus cardiaca*) an introduced European plant. It is a relative of catnip and the mints in general. I should like pressed specimens of the whole plant.

Yesterday morning I accidentally found the inclosed plant on the roadside; my attention was called to it, from the fact that it was *literally covered with bees*. The same was the case on my return in the evening.

I took a sample of it to the house of a bee-keeper, who also observed it for the first time, this summer; he informs me that there is another variety with a *deep purple* bloom, you observe that this is *yellow bloom*, alike productive of both honey and pollen. WM. S. BARCLAY.

Beaver, Pa., Sept. 25, 1875.

The specimen is a species of golden-rod, and judging from the few small stem leaves which accompanied the flowers, I take it to be the Canadian golden-rod, (*soldago canadensis*). All the golden-rods are valuable honey plants, and might profitably be grown for that purpose. They are so readily killed by plowing, that they are hardly to be considered as dangerous weeds.

The purple flowered plant referred to, is as Mr. Barclay rightly conjectures, a relative of the golden-rod. It is no doubt an astor. All astors are good honey plants.

Enclosed please find six specimens of honey-producing wild flowers: will you please give their names through the AMERICAN BEE JOURNAL, and oblige?

No. 1 is a yellow flower; grows about three feet high; is found on the river bottom, and also in most uncultivated spots in fields, etc.

No. 2 grows in similar places; is from 3 to 4½ feet high.

No. 3 is a thick branching plant, from 4 to 6 feet high, with a great abundance of small, white flowers.

These are very fine honey-producing plants; they begin to bloom the first of August, and continue until winter.

No. 4 looks same as No. 3, except that it has blue flowers and less profuse flowering; but grows exclusively on upland.

Nos. 5 and 6 are similar, differing only in form of flower head; are about 2 feet high, and grow almost anywhere.

C. F. LANE.

Rock Co., Wis., Sept. 15, 1875.

No. 1 is a Bur Marigold, or a species of spanish-needle (*Bidens chrysanthemoides*). I do not think it desirable that the bees should work much on this plant: it would give the honey an acrid taste.

No. 2 is sneeze-weed (*Helenium autumnale*). May produce good honey, but it is doubtful.

Nos. 3 and 4 are a species of aster. These two asters are, no doubt, valuable for honey, as Mr. Lane says. In order to determine the particular species of each, more leaves are necessary.

Nos. 5 and 6 are golden-rods (*Solidago*). The fragments are too small to enable me to identify species. All golden-rods, however, are valuable honey-plants,—so it is not necessary to distinguish between the species.

It makes determination much more easy and certain if a good-sized piece of the plant is sent. The leaves should, in all cases, be present.

Bees here did well in the swarming line. The frost killing our buckwheat cut the honey supply short. I send you two specimens of flowers; would like to know what the names of them are. Bees work lively on No. 1. as it is now blooming nicely. I do not know as they would work on No. 2, it is just coming on. My stock last spring consisted of 57; I now have 118 strong colonies, with hives well filled with honey for winter.

E. J. NEWSOM.

Dunn Co., Wis., Aug 29, 1875.

The specimens are both golden-rods. No. 1 is the large rigid-golden-rod (*Solidago rigida*)—common in Iowa and all the northern States. It is rough, has a stout stem, with quite large heads of flowers, and grows from 2 to 5 feet high.

No. 2 is scarcely determinable on account of not having leaves, but it is probably *Solidago missouriensis*, the Missouri golden-rod. It will probably furnish a good amount of honey.

Always in sending plants for name they should have flower and leaf: this is especially the case with the golden-rods, whose flowers alone are so nearly alike as to render it difficult to identify species.

Particular attention is requested to the advertisement of Geo. H. Byrns, of Pratt's Hollow, New York. He has some bees, honey-boxes and an Extractor for sale cheap, as he is going South. See the advertisement. It should have appeared in the October number, but was overlooked.

Among our callers since the last issue, were: E. Gallop, Osage, Iowa; R. H. Mellen, Amboy, Ill.; and Miss Jennie French. As we were absent from the city on business, we did not see them, but hope they will call again.

We have received the Report of Proceedings of the Kentucky Bee-keepers' Convention. It will appear in our next.

The Other Side of Bee Culture.

Under this heading a writer in the *Western Rural* for Aug. 21st says:

"The outlook for the honey producer is darker to-day than for years past. Put your products where you will, and you meet a competition that drugs the market. Take from the market manufactured honey, and all honey that cost the producer double what it is selling for, and there would still remain a surplus."

In complying with a request of several of our subscribers, we wrote the honey dealers for a statement on the market. The following letters are the result, and will fully explain themselves:

MR. T. G. NEWMAN:—In reply to your favor of the 14th inst. would say that honey market in this city is not overstocked by any means—sales a little slow—but as soon as cool weather sets in I expect to sell tons of it. The sale of honey always is dull here in fruit season.

S. H. STEVENS.

St. Louis, Sept. 15, 1875.

DEAR SIR:—In reply to your inquiries, I can only say that the supply of honey in this city seems equal to the demand; at least we have found no trouble in picking up all we have required. The season however, is not yet fairly opened. When people get back from the country and trade revives, the demand for honey, no doubt, will be considerably increased.

JNO. LONG.

New York, Sept. 20, 1875.

DEAR SIR:—The statement in the *Rural* that the market is overstocked, is in part true; but the writer should have stated with what kind of honey the market was overstocked. He evidently means with poor honey; of this sort we have sadly too much, but of good honey there is very little, and if the "outlook be dark" at all, it is on this account. It stands thus, then: Too much bad honey and too little good. Let good honey be put in market at reasonable prices and the evil will be remedied at once. The necessity for "manufactured honey," so-called, will be at an end when good honey can be bought as reasonably as good sugar.

A. KERNBERGER.

Chicago, Sept. 23, 1875.

MR. NEWMAN:—I have letters from a large number of apiarists, having from 500 to 10,000 lbs of honey to sell, asking what I would pay for it. I have almost invariably requested them to make their own price, stating that as honey seemed to be plentiful, and trade light, prices would probably be low, and I did not care to be responsible for making the price as I had usually done.

Strictly white comb-honey for repacking, will be in good demand with me; and I shall want a few tons of white extracted sage, bass-wood and clover; but as I have a large stock of dark extracted on hand, from last season, I will probably not want any of that for many months to come. Trade is dull generally, and prices of almost everything lower; a great many things have been over produced, and consequently unsalable at old prices.

I have reduced my retail prices 25 *per cent.* and even that makes trade very little better.

Mr. R. Miller, of Compton, Ill., was here recently, and in the course of conversation, asked me if I did not think that the numerous reports in the papers about sugar, molasses, glucose, glue, flour, soap, palm oil, clay, lard, sawdust, etc., mixed with honey, and sold for the pure article was not recoiling on the producers. I told him, it certainly was; and, if they continued, they would turn everybody's stomach against honey.

I am often asked how I manage to get the wax molded, and honey put into the cells and sealed over as nice as the bees do it. I tell them they give me too much credit.

There are not many honey producers who understand the relation we bear to each other. The true relation is, they are the producers and I am simply their agent to gather it in and hold it for months, and sometimes for years, (however, my money is in it—not theirs,) and distribute it as it is needed all over the world, as my trade extends.

Not many producers or consumers understand that I am placed between two fires. Producers say, because I do not buy all their honey, I must adulterate it, mix it, add to it, or make an imitation of honey—and the consumers say: You sell so much honey, that of course it is not all honey, there cannot be so many car loads of honey raised in the world. I answer to the one that I buy all the honey I can sell, even many times without a profit; and, to the other, that I do not buy one-tenth of the honey that is offered, in many instances having given instructions how to pack and peddle it in their own towns. (Now don't everybody write me at once.)

Some producers say they must have 12½ others 20 cents per lb. for their extracted honey, while I hear that Mr. Crowfoot peddles his honey in Milwaukee at 11c. per lb. I am glad that he has found sale for it. I have bought several lots of extracted honey lately at 8c. per lb.

I should be glad to sell all the extracted honey I could buy at 12c. per lb. in barrels.

There seems to be a great misunderstanding between honey dealers and the producers, and it has been caused largely by producers thinking we made too much money in the business. Let the apiarist step forward who can show a record of as

much hard work as I can in the past ten years, in the interest of bee-keeping. If it was not for him who feeds the honey to the public direct, what would your papers, your hives, your queens and bees all be worth? I have labored 16 to 20 hours a day the greater part of the time since I have been in the business. I have searched out in all our cities everybody that I could sell a pound of honey to, and three-fourths on credit too, in sums of 25c. to $2. trusting almost indiscriminately everybody who would buy, and had standing out at times, after my business was enlarged, in several cities, in these small sums, to people I never saw, $5,000 to $6,000, of which I usually lose from 2 to 10 per cent. I have given away tons of honey for people to try that I never received a cent for.

For many years I have worked for glory, although I always made money; but after learning that my efforts were not appreciated, I only worked for the dollar.

I have been largely engaged in manufacturing maple syrup from the sugar, the past few years, which has outgrown the honey interest, and I may at some time ask apiarists to relieve me entirely of that interest. The maple sugar producers seem to be a rather more pleasant people to get along with generally, although I should pay a tribute of respect to my many friends among apiarists.

C. O. PERRINE.

Chicago, Ill., Oct. 19, 1875.

For the American Bee Journal.

Honey.

That there is no accounting for tastes is an old saying, and to a considerable extent it is true; but our individual tastes and preferences are largely a matter of education.

I live in a region abounding with white clover, and nearly all the surplus honey we get is gathered from the blossoms of that plant. The few linden trees that bloom are not sufficient to materially alter the flavor of the clover-honey. In consequence of this, we have a demand in our markets for only choice qualities of honey. In consequence of the short crop this year, I purchased some bass-wood honey from Michigan, and my customers complained of the taste of bee-bread in their honey. They were ignorant of the flavor of bass-wood and mistook it for bee-bread. Many of them would hear my explanation, and then say, with a knowing shake of the head: "Ah! I know *bee-bread* when I taste it."

A friend from the mountainous region east of us remarked to me lately: "Yes, white clover furnishes very pretty honey, but nothing tastes to me like *honey* except that from the poplar bloom."

I was lately at the business house of friend Muth, in Cincinnati, and though short of clerks that day, and besieged on every side with customers, he took time to show me over his large establishment, and to have a little bee-talk. We went to the honey-cellar, and sampled numerous casks of honey, with a view to compare qualities. "This," said Mr. M., drawing the bung from a cask, "came from a friend in Michigan. He wrote when it was shipped that if I ever saw, smelled or tasted better honey, he would not charge a cent for it. He called it white clover. Try it." Upon tasting, it proved to be what would pass in our market for medium second quality. There was in the cellar honey from the North, the South, and the West as far as California. Honey from that State was very thick, almost as clear as water, and of a high spicy flavor, somewhat resembling that from peach and apple blossoms. Honey from Louisiana was rather dark and of a strong flavor. Bass-wood honey, from the Northern States, was very light-colored and already (September) partially candied.

Mr. Muth reports honey-crop very short, no strictly first quality of this year's crop seen, and no comb-honey on the market; though he was expecting some in September.

From the honey-cellar we went to the warehouse, where bee-hives and honey-jars were stored in quantity. A car-load of honey-jars had just come in from the factory, and were piled up near the warehouse. The nicest straw mats for winter covering that I have yet seen were piled up near-by. I have been using quilts, but hereafter shall make only straw mats to cover my bees; and I shall try a few hives with eight combs and a smaller mat on each side next the wood, in place of the comb. I use Langstroth hives.

I was much interested in Mr. Muth's account of two cases of foul-brood that had occurred in his apiary. He confessed that he was very much alarmed when it was discovered, but by prompt treatment, he had conquered it, and that danger was over. The bees were changed to empty combs and the old combs melted and hives burned. After thirty-six hours the bees were again changed to clean combs and fed sugar syrup for wintering. Mr. M. can show as fine Italians as one would wish to see. He cultivates them exclusively, but can relate a little experience with Egyptian bees of his own importation. As fighters, they were a decided success, but they did not conquer friend Muth; for he routed them, "horse, foot and dragoons." That is to say: Kings, queens and guards. This was necessary for the safety of himself and friends.

September, 1875. W. C. P.

Any numbers that fail to reach subscribers by fault of mail, we are at all times ready to re-send, on application, free of charge.

BEE KEEPING IN 1875.

UNIVERSAL REPORTS CONTINUED.

DEAR BEE JOURNAL.—According to request in your last issue, we answer:

1. Bees usually commence storing honey in this locality from the 15th of April to the 1st of June, but an unprecedently late frost last spring destroyed all the fruit and other early bloom and no honey was gathered until the first of June, at which time they commenced operations quite vigorously, and continued for about thirty days filling the hives and storing up considerable surplus in caps. Many swarms issued during the month of June, but it commenced raining here about the first of July, and continued for about forty days, during which time no honey whatever was stored, consequently many of the young swarms starved out and died, and those that survived were almost destitute. The wet weather produced a good crop of smart-weed, and bees have, within the last two or three days, commenced gathering honey almost as rapidly as at any time during the season; and the young swarms being quite flush with bees and comb may yet store a sufficiency for winter use. If, however, they should secure only a partial supply, a few pounds of honey or sugar fed them will enable them to winter successfully. If, after the honey season closes, they are found to be short, some of the weaker hives might be destroyed, and the proceeds turned over to the stronger ones; this process, though a little barbarous, we think a better plan than to let all perish.

2. The prospect for honey the balance of the season is very good, early frost excepted.

3. The three best honey-producers, with us, are: white clover, poplar and linn, though we have quite a variety of other weeds and plants that produce more or less honey. Smart-weed taking the lead.

4. Poplar, from 1st to 15th of April, generally,—this year from 1st to 15th of June; white clover, from 15th of April to 1st of June; linn, from 25th of June to 10th of July. J. W. FINNELL.

Madison Co., Ky., Sept. 6, 1875.

DEAR JOURNAL:—I commenced the winter of 1874, with sixty-four swarms, and lost in winter fifteen swarms leaving forty-nine. Five of these were very weak. I did nothing but build up during the season, leaving forty-four, in good healthy condition, though not strong, in bees. I have twenty-two new swarms, making sixty-six in all. I have taken 2,400 lbs of cup honey, and my hives are now well stored with both bees and honey. I do not consider the season a good one; it has been too cold or dry.

We consider the honey harvest for this season now over.

Our fall flowers produce but little honey, and bees seldom gather any after this season of the year more than they use.

Our principal sources for honey are fruit blossoms, white clover and linden. White clover comes into bloom about the middle of May, and continues about six weeks. From bass-wood or linden we get our greatest amount of surplus. It blooms from the middle of July until the first of August, or from fifteen to twenty days. Large amounts of honey are gathered from it. I have known ten pounds of honey to be gathered in one day from it. H. ROOT.

Onondaga Co., N. Y., Sept. 6, 1875.

My success this season in honey and swarms, is as follows:

I commenced the season with forty stocks in the Langstroth hives. I have taken 1600 lbs, up to date, of box honey. I have had but one swarm. The honey season is about over here. We have but few fall flowers, as there is but little buckwheat sown here In the spring we have abundance of fruit blossoms. Then comes white clover and bass-wood. But clover is our main pasturage. Bees have swarmed but little in this section this season, and there is a good deal of complaint of a short honey crop. NELSON TENNY.

Monroe Co., N. Y., Sept. 15, 1875.

DEAR BEE JOURNAL:—In answer to your questions I would report as follows:

1. good for swarms, but too wet for honey; about medium for surplus.

2. Balance of season till Oct. 10th, bees will gather about as much as they consume from golden-rod (*Solidago Ulmifolia*) and aster.

3. Difficult to answer, as seasons vary. *The* best is always *white clover;* then, as a general thing, dandelion, in spring, and buckwheat for late summer.

4. Dandelion commences in May, 1 to 10, and continues about three weeks. White clover the latter part of May (this year June 10), and continues from four to nine weeks, according to weather. Buckwheat, Aug. 1, about four weeks.

H. H. FLICK.

Somerset Co., Pa., Sept. 9, 1875.

DEAR SIR:—I commenced this spring with eighteen hives, very weak; I lost four or five queens by death or desertion. The April spell of winter we had, killed all blossoms in this part of the State, yet my bees never did so well. I raised my own queens, pure Italian. I extracted over 400 lbs of honey; will take off twenty boxes of honey, which will average 30 lbs to the box; and a hive about 600 lbs, in all about 1,000 lbs. My bees increased to 54. I

stopped dividing on the first of July, but the bees had no notion of quitting, so I had twelve natural swarms, afterwards; the last two came off August 22, and they have done well for the time; the boxes are one-half full. The season was very good up to date, but now it is very dry, and bees are doing nothing; prospects ahead not good.

Our three best honey plants are white clover, linn and buckwheat. We have also the poplar, locust, wild cherry, chestnut, and all kinds of fruit. Clover commences to bloom the second week in June, and continues three or four weeks. Linn commences the first week in July, and remains three or four weeks in bloom. Buckwheat commences the second week in August, and is also in bloom three or four weeks. I might also say we have a host of honey-producing weeds in the fall that the bees do quite a business on.

WILLIAM REYNOLDS.

Westmoreland Co., Pa., Sept. 9, 1875.

MR. NEWMAN:—I had twenty swarms last spring; one-fourth of them were very weak. I have taken from them up to-day 363 lbs. of box honey in small glass boxes, and six natural swarms.

The season is over now.

The best three honey plants: dandelion, white clover and linden. They begin to yield honey about the first of June, and continue through July and about a week in August. We get no honey here after the first week in August.

I have kept bees twelve years. I winter my bees in the cellar under the room in which we live. The themometer averages 40; and never freezes. I never lost but three or four swarms in the winter.

I have never made an artificial swarm, or used the Extractor. C. J. WARE.

Orleans Co., Vt., Sept 10, 1875.

I started last spring with five stands of bees; three in good condition; two weakened by dysentery. I increased to eighteen stands, putting two small swarms together. All natural swarms. The first part of the season was too cold and wet for much honey. We have had our best honey season during the past three weeks. I have taken 500 lbs., all in small caps, and have 100 lbs. on the hives. I have not used the extractor.

The prospect is good for the balance of of this month if it keeps warm.

Bass-wood and buckwheat have been our best; now they are working on late buckwheat, boneset and golden-rod.

My bees are black. I introduced two Italian queens to my stock a short time ago. I use the Langstroth hive.

R. A. CALVIN.

Berrien Co., Mich., Sept. 7, 1875.

I began the season with fifty-six stocks; have increased to eighty-four; and have got about 3,000 lbs of box honey; the largest portion was obtained from bass-wood.

The prospect for the balance of the season is rather poor. We had a frost about the 20th of August that killed most of the buckwheat, and the weather is very unfavorable for gathering honey from the flowers that are not killed. The best three plants for honey in this location are white clover, bass-wood and aster.

White clover generally begins to yield honey from the first to the middle of June, and lasts from four to six weeks; bass-wood generally begins to yield honey from the first to the tenth of July, and lasts from ten to fifteen days, sometimes a little longer, which was ths case this year. The aster begins about the last of August or first of September, and lasts from three to four weeks. W. H. TENANT.

Winnebago Co., Wis., Sept. 4, 1875.

Out of forty-three stands of bees put into winter quarters, I succeeded in wintering and "springing" twenty-eight. Ten of these I used for rearing queens, leaving eighteen for gathering honey and increase. The season was very unlavorable until about August 5th. My best stands only gathering enough until that date to keep from starving. My weakest swarms I had to feed. During the summer I increased them to thirty-six swarms, and began to use the extractor, August 10. Honey harvest lasted but thirty days, during which time I extracted 4,200 lbs. of *extra* nice honey, besides leaving them plenty for winter. The original stock of eighteen stands averaged 233½ lbs. each, besides making about 100 square feet of comb.

The best honey plant for this season was smart-weed, then Spanish-needle and a dozen other good plants. Smart-weed commenced blooming about Aug. 1st; Spanish-needle Aug. 25th; both continued in bloom throughout the remainder of the season.

As a general thing Spanish-needle is our main dependence for surplus honey. Some years linn and buckwheat play an important part as honey-producers.

My bees are Italian. I received my imported queen from Chas. Dadant & Son. Her worker progeny are not the fancy, light colored variety which some so much admire, but, O my! don't they bring in the honey though; and that's what we are after. M. E. MCMASTER.

Shelby Co., Mo., Oct. 11, 1875.

I commenced this spring with four stands of bees in fair condition—three Italian and one hybrid.

In the latter part of April, I started a nucleus hive, from which I raised ten very fine queens. On May 7th, I divided all my

stocks, and built up my nucleus to the standard of a strong swarm. They all accepted the situation without a murmur, and went to work to my entire satisfaction. I expected to get a fine yield of surplus honey, but after examining them twice a week, through June and July, I found at no time, more than one day's provision ahead, but always plenty of brood. During the long wet spell, I had to feed them to keep them from starving. About that time my surplus honey bubble "busted," and I agreed with them, that if they would lay up enough to keep them through the winter, I would furnish them with good shelter, and would go in partnership with them on the surplus honey question next spring. They agreed to the proposition, at least they worked on cheerfully, and I left them to their own devices, until the 29th of August. When I came home from camp-meeting, the boys told me I had another swarm of bees. The same queen that successfully led off a swarm on the 12th of August, 1874, concluded to try it again this year; and now after 12 days they have made over six square feet of comb, and that well filled with brood and honey, and I have no fears but they will make all the necessary provisions for winter. When that swarm came out, I concluded I had enough bees, and started through my hives to break up the swarming business, and to my surprise I found them well filled with honey. I got out my extractor, and took away over 150 lbs, leaving perhaps as much more in the hives, and if the weather continues favorable throughout this month and half of next, I shall get at least 300 lbs of frame and box honey; about half that amount is already stored in the second stories of my hives,—the Quinby two story hives, with movable sides, which are very convenient in taking out the frames. They are of my own make, and being a carpenter I can say the hives will pass.

The three best honey-producing plants in this vicinity are white clover, catnip and buckwheat. White clover and catnip last nearly all summer; buckwheat about two weeks. We have numerous other honey-producing plants, but no linden.

J. BALSLEY.

Wayne Co., Sept. 10, 1875.

MR. EDITORS.—I commenced the spring of 1875 with one colony in good condition, and two nuclei. I have increased by artificial swarming to 12 strong colonies. I use a two story "simplicity hive" with "standard L. frame." I have 10 colonies full above and below. I raised all my queens, and the bees have built all their comb.

I have extracted about 130 lbs. From the present prospects I think I will average 40 or 50 lbs this fall. Bees began to gather honey rapidly by April 20, which continued till about July 1st. Italians continued to breed well and increase their stores a little during July and August. Blacks gathered enough to live on, but weakened considerably during those two months.

I kept two colonies of blacks to test the merits of the two breeds, but I found they cost too much, and have just Italianized them. I let my neighbors have several full frames of brood to raise queens from, and I have killed four queens that I did not like after testing them, thus involving loss of time.

I have been living here five years, and there has not been a year during the time, but large yields of honey could have been obtained with proper management.

T. W. JOHNSON.

Lee Co., Miss., Sept. 9, 1875.

Bees in this section came out of winter quarters in good condition, but most of them were set out too early for such a cold spring as our last. I began to set mine out May 4th and finished on the 8th, all but one in fine condition, and that was destroyed by mice. The whole number placed in my cellar, Nov. 15th, was 82. On June 1st, they were not in as good condition as when set out, while those set out a month earlier dwindled down to the young that were unable to fly, and not many of them.

I got a little over 2,500 lbs of box honey, in five lb boxes.

Bees commence storing about June 15th, and cease about July 25th. I had but 23 new swarms this year. The greatest amount from one swarm was 31 boxes, or 164¾ lbs. Same swarm last year made 172 lbs.

Our honey season is confined to briar, clover and bass-wood. This season the forest worm destroyed nearly all the buds of bass-wood, so that but few of them ever came into bloom; this shortened our crop of honey nearly one-half. My bees are Italians and hybrids. IRA BARBER.

St. Lawrence Co., N. Y., Sept. 12, 1875.

I have a cellar that keeps a temperature varying from 35 to 45 degrees. I put thirty-six skips in the cellar on Dec. 1st. In March, all but one were in fine condition, that one I let fall down the steps. I set them on their stands about April 1st, in good order; bought seven skips more; lost eight out of the whole, leaving thirty-four, many of them quite weak.

On the twenty-eighth of June, they began to swarm; have sixty skips in all from swarming and dividing. I put all second swarms back; twelve swarms had no increase. One hive I adjusted to admit of forty surplus frames; it has given me *two hundred pounds* of honey in surplus frames; I do not extract any honey; I have about one ton of honey in surplus frames; the honey season has not been an average one.

My colonies are strong in bees and honey; the honey season is over.

The best honey plants are bass-wood, chestnut, and white and red clover; the raspberry is equal to the best; honey sells for 15 cents for dark, 20 cents for white. The bees have gathered great quantities of pollen this fall. JAMES MARKLE.

Albany Co., N. Y., Sept. 10, 1875.

Three-fourths of my bees of last year were lost in wintering, occasioned by being too weak in bees and supplies, and wintering in an outdoor repository, banked on the sides with earth and sawdust, and covered with boards and straw. During the severe winter, the bees were much of the time surrounded by frost. They would, I think, have been better off in the open air; I commenced this season with the remnant—only six feeble swarms. These have built up strong, but have afforded no increase, and but little extracted honey. I obtained three new swarms of a neighboring bee-keeper, by exchanging old comb,—giving two hives of comb for one of bees. These I have increased artificially, by giving the old comb to six strong swarms, I have extracted from them about 150 lbs of honey.

The three best honey plants in this region are, white clover, bass-wood, and weeds on the Mississippi bottoms. White clover commenced about the middle of June, and continued in bloom three or four weeks. Bass-wood commenced a little before the middle of July and continued about two weeks, not furnishing as much honey this year as usual. The bottom weeds commenced to bloom about the 20th of July and have continued until the present time furnishing honey in great abundance. One of these weeds grows from four to five feet high, blossoms in large clusters, purple in color, with white pollen. The other resembles Gray's description of golden-rod,—grows about two feet high,—yellow blossoms radiated at the base—center large and cone-like. There are near here hundreds if not thousands of acres of these blossoms, furnishing excellent fall pasturage for for bees.

One veteran bee-keeper in this vicinity has seventy-five swarms. Has extracted this season over a ton of honey. He lost during last winter less than five per cent. Winters in a warm, dry cellar, with caps filled with straw and no upward ventilation. His bees came out with clean comb very strong.

Another intelligent bee-keeper within three miles, has about a hundred swarms. He discards the extractor. Is laying aside frames, and going back fifty years to a plain box hive, with an arrangement for boxes in the top,—planning only for box honey, and he succeeds finely. SIGMA.

Dakota Co., Minn., Sept. 21, 1875.

I commenced with 19 colonies. Had twelve natural increase, and nine artificial.

I took 400 lbs extracted honey. Principal source of honey: fruit blossoms, white clover and buckwheat

C. C. MILLER.

McHenry Co., Ills., Sept. 24, 1875.

I began the season with twenty-two stocks of Italian bees, having lost eighteen during the winter and spring. The most of my stocks were very weak. The fruit blossoms were nearly all killed, and the bees got a very late start. They did well, however, while the black gum and poplar were in blossom, and stored some honey. The wet weather set in the first week in June, and from that time until the middle of August, they did not gather more than enough to supply their own needs. In fact in some of the hives not enough I have increased by artificial swarming to thirty-five full colonies, and two nuclei, and have taken thirty-three lbs of extracted honey. For the last two weeks my bees have been gathering honey very fast, principally from buckwheat and several varieties of *polygonum*, the species to which the common smart-weed belongs. The prospect now is that they will store enough to winter on and some to spare.

I am at a lost to determine what answer to make to the question, "which are the best three honey plants in this section of country? White clover, no doubt, stands first in importance, and yet some seasons it yields very little honey. This year it was almost worthless. I am inclined to place black-gum and poplar (tulip tree) as the next two in importance. We have so little bass-wood, or linn, in this neighborhood that it is not worth mentioning. The black-gum blooms in May. I am not able to give the precise time, and remains in bloom about ten days, perhaps a little more. The poplar comes in about the time the black-gum is done, and continues about two weeks. White clover begins to bloom in May and continues through June, and sometimes well into July, according to the season. M. MAHIN.

Henry Co., Ind., Aug. 4, 1875.

DEAR EDITOR:—This is my first year in the business. I reside in the central part of the city. Started last spring with two good stocks of common bees; increased now to five. The spring was very wet, cold and backward, and but very little honey was gathered till about the 1st of July, when the white clover came, the weather being favorable, it lasted almost six weeks, during which time, when it did not rain, the flow of honey was very abundant and had my bees been in good shape I might have had at least two hundred pounds of box honey. One stock is strong and has yielded fifty lbs of nice box honey. Three others are now quite

strong, but have given me only about twenty lbs of honey from all. The fifth wants nursing yet. My text-book is Langstroth as well as my hive, and I am a great admirer of both.

There is still a good deal of honey apparently, and *if* it does not rain too much, and *if* frost does not come too early, our bees will get their share of it.

I can only speak of white clover with certainty as a honey-producing plant, though there must be others. There is now a good deal of golden-rod in bloom, but clover is our main reliance.

On the whole I am gratified with my success, and look forward with pleasure to a resumption of the work, that is *if* my bees winter well. MRS. C. E. CRAIN.

Milwaukee, Wis., Sept. 6, 1875.

1st. I commenced this spring with 40 stands of bees, rather weak, being badly damaged last fall by taking them to the mountains, some ten to twelve miles east from Orange. I commenced extracting about the 15th of May, and to Sept. 15th, I have taken six thousand pounds. I have increased them to over eighty stands. I will still have to extract and divide them, as they are strong with bees and honey. I have sold no honey for less than ten cts. in gold, and don't intend to. I love the mountains and bee-culture.

2d. Not much more extracting, although during the balance of the season they gather honey and pollen whenever the sun shines.

3d. The three best honey plants in my location is the black button sage, the white sage, and the sumac.

4th. They begin to yield honey about the middle of May, and continue about three months. ROBERT HALL.

Los Angeles Co., Cal., Sept. 8, 1875.

I wintered 31 stocks of bees last winter, mostly in good condition; about half Italians. The spring was cold and they did but little till late in May. I extracted about 700 pounds of red raspberry honey in June; got a small quantity of bass-wood honey. They have gathered some for about one week to this date, Sept. 4. I have taken about 1900 lbs. and have 83 strong stocks; the prospect for the balance of the season is good. My bees raised more brood this year than I ever knew before; they are all Italians and hybrids. Our best honey-plants, aside from linn, is golden-rod, wild aster, and boneset. They all begin to yield honey about the 20th of August and last till frosts destroy them, which is generally about the last of September. Last winter was very hard on bees in this vicinity, nearly all died except mine. I lost ten out of 59; then sold all but 31.

IRA J. ANDREWS.

Gratiot Co., Mich., Sept. 4, 1875.

We had 61 swarms, all Italians, to commence with in the spring. We only extracted 1200 lbs. It was a very poor season for honey here. It rained almost every day through the honey-season. We now have ninety-one swarms, and sold two. The weather has been very good for bees during the past two weeks. We think they have a plenty to winter on, if it continues, and we may have some to extract. They are working on buckwheat and thoroughwort at present.

As to the best honey-plants, Alsike clover and Rocky Mountain bee-plant are the best two, and catnip the next. I think the wet season favorable for white clover, as it is so plenty, and we may expect a good honey-season next year. Your JOURNAL, I could not do without; if I only had two swarms, I would not be without it. We take three, and read them all. MRS. A. A. RICE.

Medina Co., O., Sept. 10, 1875.

In answer to your questions in September number:

1st. Good.

2d. Good.

3d. and 4th. That I am a beginner in bee-keeping, and cannot answer intelligently; white clover is our main dependence. We have a large quantity of red raspberry, some bass-wood, buckwheat, boneset, golden-rod, and fruit blossoms. Every other year this is considered a good section of country for bees.

CHAS. OLIVER.

Crawford Co., Pa., Sept. 6, 1875.

We have not had much of a honey-season, here in Maine. It has been cold and wet. We generally have our best honey-season in August and September, but this year we have no honey to mention. My bees did little or nothing on golden-rod. It has been so cold that we had quite a frost on the 11th of September, and since that, bees have flown but little. I had three stocks to start with in the spring. Have had five natural swarms and made one artificial, and given them an Italian queen; introduced by Mrs. Tupper's method, with perfect success, and now have a fine stock of Italians. I have at this date nine good stocks; am hopeful to be able to winter and spring them in good shape, and take some honey next season. I have only taken about 25 lbs. this season. I hope to do a good deal better next year. S. H. HUTCHINSON.

Mechanic Falls, Me., Oct. 11, 1875.

I have taken an average of 75 lbs. of extracted honey from my stocks. If I had run my bees for honey exclusively, I could have taken 125 lbs. per colony. My increase is at the rate of three for each one I had in the spring. I have as many as six from one (partly natural and

partly artificial). The honey season is over with us.

2. Bees have not gathered any honey since the 20th, when we had considerable frost. There is a plenty of heart's-ease in bloom yet, but it is too cold for the secretion of honey, and the little workers, with bountiful supplies, seem to be enjoying a season of rest.

3. Bass-wood, sumach, and heart's-ease, or smart-weed.

4. Bass-wood and sumach commence to yield honey about the 20th of June and usually continue about two weeks; smart-weed begins about the 15th of August and continues until frost.

L. G. PURVIS.

Fremont Co., Iowa, Sept. 25, 1875.

I commenced the spring with seven swarms, two of them light, from which I got no increase, and five wintered in cellar, fair, average swarms, from which I have an increase of 11 good swarms, making 18 in all. I shall get about 300 lbs. of box honey.

My bees have not stored any honey in boxes since about August 10th, on account of cold and wet weather.

White clover, bass-wood and buck-wheat. White clover and bass-wood begin to bloom about June 10th; buck-wheat about the first of August, and remains in bloom until frost, which came this year on the 22d of August.

O. C. BLANCHARD.

Sauk Co., Wis., Sept, 13, 1875.

I took sixteen hives out of cellar last spring in good condition. The season being cold, they made no honey until the latter part of August; then they increased in numbers and were strong when honey harvest came. Have increased to twenty-three. Extracted 350 lbs., and I think I can take out 350 lbs of nice comb honey, made in frames, and have plenty to winter on. What they have done was done in about eighteen days, in the latter part of August and first of September, from smart-weed and spanish-needle. They got no good of white clover on account of constant rains.

The above named plants, I think, are the best honey-producing plants in this locality.

Heretofore, I have only been keeping bees for the novelty of it, and honey for table use, but now I find, where intelligently and judiciously managed, it would be a profitable business, consequently, I think of increasing the stock. My hives are 18½x18½, 12 in depth. I use no boxes or honey-boards. I winter in a dry, well-ventilated cellar, under my dwelling-house. I have wintered from eight to eighteen stocks from nucleuses up, for four years, and lost but one, and that was from some oversight, as it had not enough honey. I buy my queens from A. Salisbury, of Camargo, and have never been disappointed in getting what I pay for. I buy pure Italians from imported mothers.

By the way, Mr. Salisbury, years ago, learned the secret of wintering bees. When a man can for years put into winter quarters from 150 to 200 stocks of all sizes from nucleuses up to the largest standard hives, and take out the same number in good condition, all can see the great contrast between that and the usual wail that comes from Maine to Kansas, over the loss of their pets.

R. E CARMACH.

Douglas Co., Ill., Sept. 22, 1875.

Answers to questions in the AMERICAN BEE JOURNAL of Sept.:

I. Have taken with the extractor an average of twenty pounds per hive, mostly in July. Had to feed nearly all through August and into September to keep up brood rearing. Sometimes during August they seemed to gather almost nothing, again they did better, but not enough to supply the brood. We fed on sugar syrup in the middle of the day, in the open yard, about 1½ gallons per day to twenty colonies. The bees seemed to expect it regularly, took it with the greediness of pigs, and then quieted down in a very few minutes; no fighting, no robbing. The swarming season was very late this year. Sometimes they begin in April, but this year they did not begin till near the end of June. We made an average of one from two.

II. The prospect for the balance of the season seems to be good. The autumn gathering is now (Sept. 16) fairly commenced. The hives are filling up gradually. The bees are working busily on buckwheat, golden-rod, iron-weed, smart-weed, rag-weed, boneset, etc., are coming into bloom.

III. The best three honey-plants, are 1st.,poplar, or tulip; blooms in May, from the 1st to the 15th or 20th—owing to the season. No bloom this year: killed by late frosts. 2d. White clover not over abundant—blooms from June 1st to 20th, and sometimes again sparingly in Sept. 3d. Sour-wood; blooms about July 1st to 20th. This latter gave us our surplus the current year, being abundant, and yields a most delicious variety of pure, transparent honey.

A. E. KITCHEN.

Guilford Co., N. C., Sept. 16, 1875.

1st. Extracted honey, 1247 lbs., but very little box honey. I have fifty-three stocks, besides nuclei.

2d. Good till frost. Forty-five or fifty gallons per week. The season will probably last two or three weeks.

3d. White clover, linn and spanish-needle; linn begins to bloom about July 7th, and lasts about ten days; spanish-

needle begins the last part of August and lasts till frost; smart-weed has given some surplus this fall. ANDERSON YORK.
Davis Co., Iowa, Sept. 7, 1875.

I put eleven colonies of blacks and hybrids into winter quarters, by making a box for each hive, of boards, coming within six inches of touching the hive all round, except in front, which I left open to the south-east. The spaces between the sides and hive I filled tightly with dry leaves, about Nov. 10; and covered it over to keep dry, giving no upward ventilation. I use the two-story Langstroth hive. I did not lose a single colony, and but few bees. In the spring I fed but little, as they had plenty of honey. For pollen, I gave them rye and wheat flour. They gathered honey quite fast from the peach and maple bloom (April 1st,) and nearly filled their surplus boxes. On April 17th a frost killed the bloom, and ended their gathering honey. My first swarm came on April 24th, while it was yet cold. I had to feed all until white clover came. Then they began to swarm again. June 1st, I extracted 75 lbs of honey, but the bees never filled the frames again. Usually there is but little to be gathered in July and August. For 15 days from Aug. 7th, I fed each hive ¼ lb to stimulate them for the fall crop, if there should be any. Aug. 22d I had two swarms, and would have had more but I prevented it by cutting out the queen cells.

We have a plenty of aster, golden-rod, and fall flowers, but it is too dry. If the bees do not get enough to winter on, I shall feed them sugar syrup. This I prepare by mixing equal parts of "Coffee A," sugar and water. When it boils add a teaspoonful of salt to every 8 lbs of syrup, and skim it.

I expect to prepare my bees for winter as for several years past, on their summer stands.

The three best honey-plants are: white clover, (May 10th to June 10th); poplar, (May 1st to June 1st); aster, (Sept. 12th to Oct. 10th). HENRY W. ROOP.
Nashville, Tenn., Sept. 5, 1875.

EDITOR JOURNAL:—According to your request, I send you an account of what my apiary has done this season up to date.

1st. I have averaged eighty-five pounds extracted and comb honey per hive, for the old stocks I had in the spring. Increase in swarms one and one-third swarms to the old ones.

2d. For the balance of the season poor prospect. It has been raining and cold for the last weeks.

3d. The three best honey-plants are: White clover, bass-wood, golden-rod. White clover from the 10th of June to the 15th of July; bass-wood from the 8th of July to the 20th; golden-rod from the 15th of August to last of September. That is about the time they generally bloom.

A. S. WILLIAMS.
Laporte Co., Ind., Sept. 21, 1875.

MR. NEWMAN:—It was rather wet this season for honey, but the bees are all heavy and prepared for winter. I took about 1000 lbs of box honey. Our best honey-plants and trees are: poplar, bass, buckwheat, and golden-rod. This is the place for bee-keepers, as bees need no winter protection. I do not half attend to mine, as I should, and they pay me 33 per cent. My fruit farm keeps me busy. To any one wishing to locate in a mild climate, and wanting any information in reference to the country, I will cheerfully give it. No grasshoppers here to eat up the crops. A. F. HORINE.
Madison Co., Tenn, Oct. 12, 1875.

I had twelve colonies in the spring, which were in the eight-frame American hive; now I have 21 colonies, and the new colonies are all much larger than the old; the new hives have 10 frames, 14½x12½. One of these colonies will almost make two of the old ones—making a pretty fair increase. I have about 50 lbs. of box-honey. We had too much rain the fore-part of the season. This decreased my box-honey by about 100 lbs. White clover has been about our best honey-plant this season. It lasted from the first of June till the 15th of August. Buckwheat and corn fields were our next. They lasted from about the 1st of August to the 10th of September. Red clover comes next; it lasts from about the 15th of June to the 1st of October. We have any amount of golden-rod here, but the bees do not like it.

In my article in No. 9 (Sept.), in the 6th line from the top, for 32, read *twelve*.

D. H. OGDEN.
Wayne Co., O., Sept. 8, 1875.

After "springing time" was over, we were left with 32 colonies, and from them we report as follows: 56 strong colonies at present.

Aug. 5 extracted	93¼	gallons.
Aug. 12 and 13 extracted	60	"
Aug. 19 and 20 "	52	"
Aug. 26 and 27 "	75½	"
Sept. 3 and 4 "	76	"
Sept. 10 and 11 "	94¼	"
Sept. 17 to 21 "	106	"
	473½	gallons.

We think we have left them stores enough to winter on safely. The best bee plants here are sumac, smart-weed, spanish-needle and buckwheat. As yet the white clover is not here enough to count on. MRS. S. DICK.
Benton Co., Mo., Oct. 13, 1875.

I had 19 swarms in the spring,—one queenless and several quite weak; have increased to 60, and all strong enough to cover 8 and 12 frames; have obtained about 400 lbs. box honey and 300 lbs. of extracted.

2d. Frosts and cold weather will prevent getting any more honey this season

3d. The best three plants are: white clover, linden and buckwheat.

4th. White clover commences about June 1st. to 15th, and usually continues until July 15th; second crop in Aug. and Sept., not profuse. Linden, July 15th, continues about two weeks. Buckwheat August 1st, profuse until Sept. 1st.

We have millions of golden-rod, blue-thistle, motherwort, etc., which help to fill up intervals. Our honey this season is from white clover and buckwheat. Nothing from linden J. H. MARTIN.

Washington Co., N. Y., Sept 20, 1875.

We set out 23 colonies from cellar in not very good condition, owing to a hard winter and scarcity of honey last fall. I fed them on rye meal, but they seemed too feeble and cold to get out much. As soon as the willow began to blossom, they began to increase and gather honey and pollen, and I never saw bees do better. They stored honey from soft maple, poplar and fruit-flowers, until bass-wood came and we had plenty of that, and afterwards came buckwheat, catnip, balm, and other honey-producers, but an early frost put an end to their joy in a great measure.

Owing to poor health, I was not able to secure as much honey as I might otherwise have done, but I am sure they have enough for wintering, and I fear too much for their own good. We took about 1000 lbs. extracted and comb honey.

We have a good location for an apiary, being on the banks of the Turkey river. Our bees have access to timber and prairie. MRS. S. A. HILL.

Fayette Co., Iowa, Oct. 1, 1875.

MR EDITOR:—In answer to your questions, please let me say, that I had 60 colonies early in the spring, which increased to 85 by June 20. By Aug. 15th they began to gather honey very fast, and by Sept. 15th they had filled their hives and went to work in the caps, which contain 10 frames, 10x14 each.

Prospect is good, as caps are now nearly filled, and they will continue to work till frost.

Our best honey-plants are bass-wood and two kinds of weeds that are plentiful in these bottoms, but I do not know their names. The honey from them is very superior in quality. I have been in Texas and other southern states, and as far north as Michigan, but I would not exchange locations for any other—even California. Italians are the most gentle, and best breeders, but for profit give me hybrids, and I have tried them in Italy, Brazil, Spain and Portugal, as well as in this country. JOSEPH M. TELLER.

Cass Co., Sept. 5, 1875.

Below please find my success up to date.

1st. My bees did badly through June and July, owing to the grasshoppers eating up all vegetation. Linn bloom lasted only 7 days. My 50 colonies would not have averaged over a quart of bees, when the Linn trees came in bloom. I have had only 5 swarms.

2d. The prospect for the balance of the season is very flattering. I have extracted one thousand pounds to date, and will get over 200 lbs of box honey, and my hives are full of bees and honey now.

3d. The best honey plant here this season was smart-weed. It commenced blooming about 1st of Aug., and will last until frost. Golden-rod commenced blooming about the 1st of Sept., and is still in bloom. These are the only honey-producing plants except white clover, and there was none this season; the grasshoppers ate it all up.

I have now twelve hundred pounds of honey that I have been offered 18 cts. per pound. J. L. SMITH.

Ray Co., Mo., Sept. 10, 1875.

I shall reply to your interrogatories in Sept. No., in the order in which you place them:—

1st. Bees used nearly all their honey this summer to promote breeding; have increased my stock 50 per cent. by artificial swarming; have taken but little comb or extracted honey.

2d. No prospect beyond late buckwheat and a few wild flowers.

3d. Our honey-producing plants are: 1st., fruit blossoms and locust; 2d., white clover and linden, (the native linden is much better than the English); 3d., buckwheat. It has been the misfortune of our farmers to plant the *gray buckwheat*; this is the first season it has given us any honey for ten years past.

4th. White clover came into bloom June 23d. Linden bloomed July 4th; each lasted about 6 weeks.

WM. S. BARCLAY.

Beaver Co., Pa., Sept. 6, 1875.

My twenty-five stocks wintered through all right, in a cave which I made for the purpose. They did well until after fruit blossoms, then a honey-dearth occurred, caused in the first place by dry, and then very wet weather, which lasted until the latter part of July, when they began to do better, and have continued to do well up to this date. Have taken about 450 lbs. of

extracted honey, and increased to thirty-nine stocks nearly all full.

The prospect now is that the bees will continue to gather honey until sometime after frost. I may yet make a few swarms and extract a considerable amount of honey.

The best three honey-plants in this section are: white clover, bass-wood and buckwheat. White clover blossoms from May till after frost, but does not secrete much honey after the first of July. Bass-wood blossoms about the first of July and lasts about two weeks. Buckwheat blossoms from the last of July, generally, until the first frost. T. W. LIVINGSTON.

Washington Co., Iowa, Sept. 7, 1875.

MR. EDITOR:—This is my report:—1st. Increase four to one; commenced in the spring with sixteen, increased to sixty-five stocks. Honey, nearly 500 lbs of box honey. This was done previous to August 20th, at which time we had a frost which killed the corn and buckwheat, and second crop of white clover, just as they began to yield honey. Three swarmed two or three days before the frost, which will have to be fed, as there has been no honey since. Some pollen has been gathered.

2d. No prospect for any more honey this year.

3d. Wild raspberry blossoms, white clover and bass-wood are all in abundance this year. Bass-wood gave honey only about three days, instead of fifteen or twenty day.

4th. Being a stranger here I cannot tell the commencement of a yield of honey, nor what plants produce it.

I am greatly interested in bees, and the success I have had with them during the past two years have given me over four hundred per cent. on the capital invested. Last year I sold twenty-seven stocks, and this year ten stocks. I have been very successful in my manner of wintering my bees. The upper ventilation has been run to the extreme. It may answer for very strong stocks, but for weak ones or medium it is death. I give but little, and that only in proportion to the strength of stock, and my cellar is ventilated by a stove pipe inserted in my sitting-room. The stove-pipe is four feet above the floor, with a damper to close or open at will, and the pipe extends down through the floor to within fifteen inches of the bottom of cellar. This makes it as pure and sweet as an upper room. My thermometer in the cellar is kept from 35 to 45 degrees above zero, and those who can winter well, can make bees pay. In this section I predict a great loss of bees, for two reasons: first, want of stores, and second, lack of young bees, raised this fall, to live late enough in the spring to supply the loss. DAVID BROKAW.

Clark Co., Wis., Oct. 2, 1875.

DEAR EDITOR.—Our bees have not done as well as usual. On account of the cold weather, bass-wood yielded but little honey, and white clover did but a trifle better.

Some of my neighbors claimed to have Italian bees, but as I had seen many at exhibitions, I did not think them pure, so I sent to Barnum & Peyton for six full colonies of Italians, and these proved to be the only ones here of pure stock. These colonies were put up so well that they would have carried to China without damage. In the whole six colonies I failed to find an impure bee, and, of course, I was well pleased with them. My main trouble thus far has been to winter well. A sure and safe plan of wintering would be a boon, indeed. GEO. T. BURGESS.

Lucknow, Ont., Oct. 5, 1875.

I will give my report on bees. I started last spring with six swarms. I increased to nineteen; lost three by running away, and three I doubled with others. I took 300 lbs. of box-honey. Our main dependence is white clover, bass-wood and buckwheat or golden-rod.

C. S. WELLMAN.

Bremer Co., Iowa, Sept. 17, 1875.

In answer to questions, we report as follows: 1. No surplus honey. Increased from 78 to 101 swarms.

2. There is no prospect for surplus honey; but enough to keep bees busy during the winter for their own consumption.

3. White sage, buckbush or berberry, sumach.

4. White sage blooms in April. The berberry blooms several times during the summer. It is now in blossom in our canon for the *fourth* time since April. Sumach generally begins with August, and lasts a month or more. Our ranche is within the frost-stricken belt (frost of April 5th), which accounts for the poor return.

BRUNK & BRUCK.

Los Angeles, Cal., Sept. 17, 1875.

Last fall and winter proved very disastrous to many of the apiaries in this State. More than two-thirds of my bees died. Others have had about the same amount of "bad luck"; the fates in the form of the drouth and grasshoppers, have been against us. But since the middle of June bees have been doing well; swarms have been frequent this fall, and a good average of honey per colony has been procured. The pasturage this fall has been sufficient for almost an unlimited number of colonies. Crops are good, and everything indicates a rapid recovery of the country from its past reverses.

If, from the calamities of the past, we

but learn how to attain success under difficulties, we may yet hope to make the honey-bee a success in this State.

M. A. O'NEIL.

Douglas Co., Kansas, Sep. 24, 1875.

DEAR JOURNAL:—In response to your enquiries, let me say:

1st. I commenced in the spring with five colonies, (Italians); have taken about 150 lbs. of comb-honey, and increased to 28 hives, one of which is working in top boxes, and several others now ready for surplus boxes. I have had but three natural swarms this year, all the rest being artificial.

2d. Prospect good for the balance of the season, which will last to Dec. 1st., and possibly until Christmas.

3d. I cannot say with any degree of certainty what are our best honey-producing plants. The Spanish persimmon, mezquite and anagua seem to be the favorites of the little workers, but they do not last very long; varying with the season from one to two weeks. The mezquite and anagua bloom twice during the year, spring and fall.

4th. We have countless varieties of wild flowers from which the bees gathered honey from early in February until the 15th or 20th of Dec. You can see from my success that this is a bee-country. I think that if I had used the extractor, I could have still further increased my stocks, and saved several times as much honey, as the honey has been in the way of the queen all the season.

J. W. DUNN.

Corpus Christi, Texas, Sept. 13, 1875.

1st. Very good. Hives that did not swarm gave me one hundred pounds box-honey. My stock hives all gave two swarms each, and some of them gave three.

2d. No more surplus honey this season; my bees being kept in the city, I have not the benefit of buckwheat.

3d. Dandelion, fruit and white clover.

4th. Dandelion blooms April 11th; fruit blooms about the last of April; white clover blooms May 10th, and continues until about August 1st. THOS. BRASEL.

Portland, Oregon, Sept. 18, 1875.

DEAR SIR:—In compliance with your request under special:

1st. We have had but few swarms, and from 200 hives we have taken only 32 lbs. honey.

2d. We only expect to divide and make swarms.

3d. Mountain clover white sage, and buckwheat are the three best honey-plants. Mountain clover begins to bloom the last of March, and continues until the middle of May. White sage begins May 1st, and continues till July. Buckwheat begins to bloom about June 1st, and continues till the last of October. GEO. B. WALLACE.

San Bernandino, Cal., Sept. 18, 1875.

I commenced the season with 16 stands of bees, in good condition. I think I never saw hives so full of brood as they were in the early part of the season, and the prospect was flattering; but a cold spell in April killed the fruit bloom; then followed a dearth, which completely used up the white clover.

We had honey-dew for some time in June, which seemed to deceive the bees in regard to the season, as I had quite a number of swarms, some of which were returned to the parent stocks.

The latter part of the season has been poor. Buckwheat and fall flowers yielding scarcely anything. Result, 24 stocks of bees, without half enough to winter on. I have united some stocks, and am feeding for winter, and hoping for better times.

The principal honey-plant in this section is white clover. Linn is not plenty, and buckwheat seems to yield but little honey. C. P. MCCLURE.

Allegheny Co., Pa., Sept. 27, 1875.

DEAR EDITOR:—In response to queries in September number:—

1st. A year ago I bought 100 stands of bees in Langstroth hives, as used here. Increased mainly by artificial swarming. Lost some of the old stock and some of the new swarms. Have now about 140 stands. But little surplus honey. What I have, was taken from brood-combs. Heavy frosts in April, and want of spring-rains, cause of failure of honey this year. I live between 20 and 30 miles from the coast. Near the coast the frost did no damage, (see "Amateur's" reports in Aug. and Sept. No.)

2d. Will get no surplus after this. Some stocks will have to be fed. Bees may yet store some honey from flea-weed, and a few other fall flowers. Breeding well, and carrying in plenty of pollen.

3d. White sage, sumac, and yellow or wild alfalfa.

4th. Sage generally commences some time in May, and lasts about six weeks. Sumac comes in, right after sage, and lasts till the latter part of July. Wild alfalfa blooms at same time as both the former.

This year the barberry or buckbush has given more honey, and bloomed longer than any other plant in my neighborhood.

WM. MUTH-RASMUSSEN.

Los Angeles Co., Cal., Sept. 17, 1875.

DEAR EDITOR:—Last year I went into winter quarters with 30 colonies; six were short of provisions, and died. During the spring we lost three colonies; the bees left their hives and united with others. That left twenty-one swarms, which I had

to feed from the time we took them out of the cellar until fruit trees bloomed, which was six weeks. Fed them about one dollar's worth of sugar per day. I gave them what comb they could use and cover, and added empty comb as they increased in strength. I helped the weaker colonies with brood from the stronger, and when white clover came all were strong.

They went to swarming instead of storing honey. We clipped the queen's wings to prevent this. They then settled down and went to work, and to this time we have taken about 1000 lbs. of extracted, and 300 lbs box-honey, and increased our colonies to forty.

Shall not extract much more, for I do not intend to be short of supplies this year.

The bass-wood yielded but little honey, but white clover was so abundant that we hardly missed the bass-wood. Our principal resources are white clover, linn and buckwheat; we have also, mustard, catnip, smart-weed, golden-rod, iron-weed, and a multitude of other honey-producing plants, which greatly help in their seasons.

The demand for extracted honey is very small, almost no call for it at all. There has been so much said and written on the subject that people are afraid of it. I do not see what will restore it to the confidence of the people, but it must be done. All engaged in bee-culture in this vicinity, have gained courage for all have been successful. MRS. S. G. VAN ANDA.

Delaware Co., Iowa, Sept. 7, 1875.

DEAR JOURNAL:—Our best honey-plants for spring are: maple, elm and tame grass. For fall, heart's-ease has superceded buckwheat. Bees are doing well, and the prospect is good.

WM. FAULKNER.

Switzerland Co., Sept. 24, 1875.

I notice in the JOURNAL, come complaints from almost all parts of the country, that the bees are doing nothing. I am happy to report that this is not the case in regard to this part of central Illinois, (Champaign Co). In the early part of the season they did not do very well on account of the excessive rains, and but little honey was stored, beyond the immediate requirements of the hive, till linn came into bloom; during which time we had less rain, and they filled their hives pretty full, but stored very little in boxes. About the 10th of August, when buckwheat commenced blooming, they began their summer's work in earnest, and I have never seen bees do better than they have done since, and are still doing.

Just as the regular swarming season came on and the bees had made all preparations for it, the rains interfered and stopped them.

My hives have mostly been full of bees all summer, and about the middle of Aug. they commenced swarming, and I have had more or less swarms almost every day since, sometimes four in a day,—had one to-day.

The first two I gave separate hives, but I began to fear they were going to overdo the business, and I put all the rest back, consequently they are strong, and are storing honey finely. The two that I gave hives the middle of August, have their hives full, and are at work in boxes. I have had about twenty-five swarms since that time, and how long it will continue I cannot tell.

2d. The prospect for a good run of fall honey was never better, if frost holds off.

3d. The three best honey-producing plants we have, are usually white clover, linn, (near timber), and buckwheat; but this year white clover has not done as well as usual; for this season, the list would be, linn, buckwheat and heart's-ease. The latter is very abundant. The corn fields and grain fields are filled with it, and it is an excellent honey-plant.

4th. Linn continues in bloom two or three weeks; heart's-ease and buckwheat, with other fall flowers, will continue till frost. J. G. THOMPSON.

Champaign Co., Ills., Sept. 8, 1875.

ED. JOURNAL.—Our honey season commenced about July 20th, on sumach, and has been favorable ever since. Previously our bees were at the point of starvation. We never lose colonies from any cause. After the spring sales, we commenced the season with twenty-five colonies, and one of them was queenless. We have taken 128 lbs. extracted per colony of old stock, and $22.50 worth of nice box-honey, and will get enough to make from 150 to 175 lbs. of extracted, per colony, and increase to forty-four colonies. I shall double up some of them this fall. This has been the best season I have ever known in this country.

The three best honey-producers are: honey-dew, from 20th of May to 20th of June; sumach, 20th of July, and lasts three weeks; heart's-ease, and a yellow flower, looks like a bastard spanish-needle. Both of these grow in stubble fields quite profusely, in wet seasons, and produce more or less honey during all the fall.

E. LISTON.

Cedar Co., Mo., Sept. 13, 1875.

DEAR SIR:—I report the following, in reference to the "Special to your readers," in your September journal:

1. I commenced July, 1874, with one Italian and five black colonies. Closed the year with eight Italian and two black colonies. The spring of 1875 was very late, and consequently short. Summer came in soon after spring commenced.

In consequence of it the swarming season was short, and I could only succeed to give the two black colonies Italian queens; only divided one hive, as the other colonies seemed to be rather weak; had natural swarms, and have now sixteen *medium* colonies; six pure, the balance hybrids, but all large, strong bees. The honey season was very good, but short, on account of dry weather. I had about 400 lbs. of extracted honey.

2. If we do not get *too much* rain now, I think this season will be better than the last.

3. Corn, cotton blossoms, wild-flag, visage-tree, and a number of prairie and bottom flowers.

4. We have blossoms from the beginning of March to the middle of December, and even in winter bees find honey in the bottoms. The worst season for us is *summer*, from June to the end of August. The winter is nothing. If it is even cold during nine days, there will be a warm day, when they can fly out, clean themselves, and if not too far from the bottom, will gather a little.

CHARLES C. SAGE.

Victoria, Texas, Sept. 17, 1875.

DEAR JOURNAL:—In response to your request I will say that my success to this date has been very good, as to honey, since the 15th of July. I got only a little surplus honey before that. As a specimen of how my bees have been doing in the latter part of the season, I will say that on the 12th of August, I drove the queen and a fair sized swarm of bees out of a gum-hive that I bought last spring, giving the new colony only one frame of comb, and the 1st of September I cut from the new colony 25½ lbs of bright honey, and sold it at 25c. per lb. to a neighbor, and left the bees about three frames of comb. My colonies averaged one swarm each. I have since transferred the bees and comb from the gum-hive, getting, at the time of transferring, 24½ lbs. of dark honey, which I sold at 20c. per lb., and the transferred bees are doing well with five frames of transferred and some new comb.

The prospect for the balance of the season is fair. If we have a good rain soon, it will be very good.

The best three honey-plants in this locality are buckwheat, smart-weed, and sumach. My bees have been provided with a succession of blossoms since the first of July, and will be until frost comes. Of smart-weed, I will say that it began to yield honey in the fore part of August, but has now almost ceased to blossom, on account of the dry weather, but with a good rain it may be very plenty until frost, which may come here about the first of October. The sumach furnished a scanty supply in the early part of June, and is doing a little good now; it was very abundant in the latter part of July. Clover is almost unknown here, as the people have but very little red or white, and there is but one man in the county who has any alsike. It is beginning to attract attention, however. I expect to sow some white and alsike next winter, and get two of my neighbors to do likewise.

J. STUART.

Webster Co., Mo., Sept. 6, 1875.

MR. EDITOR:—I commenced this spring with five swarms, which were very weak; increased by artificial and natural swarming to sixteen; have extracted 10½ gallons; have taken off 325 lbs. box-honey. There are over 300 lbs. of unfinished boxes on the hives yet.

The prospect here is good yet, until frost. The best plant here is the blue nervine, commencing to bloom about the first of July, and continuing until frost. 2d, fire-weed, commencing about the first of August, and lasting about two weeks. 3d, boneset, beginning the latter part of August, and lasting until frost.

ROBERT FORSYTH.

Lenawee Co., Sept. 9, 1875.

Bees have done well here, this season, in gathering honey, but the swarms were few. My stocks averaged 50 lbs. of box-honey.

2d. The season for honey is over.

3d. Apple blossom, locust blossom, and red and white clover.

4th. Apple blossoms commence about May 1st, and last two weeks; locust commences to blossom about June 1st, and lasts about one week; clover, both red and white, commence about June 1st, and last until July 10th; then there is a dearth in honey-producing plants until August 1st, when the second crop of red clover commences to bloom, and lasts till about Sept. 1st.

ELIAS HERSHEY.

Lancaster Co., Pa., Sept. 8, 1875.

I had nine hives in spring, one very weak, five medium, and three strong ones. I have increased to nineteen (all artificial except two); one swarm went off in May. I have sold $55 worth of honey, about one-fourth comb, at 30c., the balance, extracted at 20c. retail. The honey was all taken by July 25th, since then they have been gaining slowly all the time, from buckwheat and weeds. We had a frost, on the 11th inst., so I suppose the season is nearly over. We had a hard frost in April, and consequently no fruit blossoms. I had to feed about $15 worth of sugar.

Fruit trees, dandelions, sugar-maple and white clover, are the best sources of supply. There is no bass-wood within about three miles of me.

J. WINFIELD.

Trumbull Co., O., Sept. 15, 1875.

1st. Honey, nothing; increase of swarms, five-sixths.

2d. Prospect for the balance of the season, nothing.

3d. Only one good honey-plant, which is white clover. The trees are locust, linn and apple.

4th. Clover, first of June, continues six weeks; locust, about the same time, lasts about one week; apple, about the middle of May, lasts about one week: linn, about the first of July, lasts about one week.

A. J. FISHER.

Columbiana Co., O., Aug. 13, 1875.

PELHAM & COBB, Maysville, Ky., report for 1875, as follows: Apiaries, two. Loss in winter, ten colonies; number in yards May 1st, 51; number in yards Sept. 1st, 84. Yield of honey; extracted 810 lbs.; comb, 100 lbs. Extracted from July 1st until 10th, when rainy weather stopped work.

Best honey-plant, white clover. Second best, linden tree. Third best, black locust. Honey season (for surplus) usually begins the last of May, and ends the first of July. No buckwheat raised in this section.

September 7, 1875.

DEAR EDITOR.—1. The past winter was a hard one on bees. Nearly all died in this section. Poor honey and dysentery were the cause. I commenced the winter with twelve swarms, Italians and hybrids. Lost nine. The spring was wet and cold. bees began raising brood about June 1st. I had a plenty of empty comb, and have now fourteen strong swarms, besides losing four that went to the woods. They have enough honey to winter on, but no surplus.

2. Poor prospect for balance of the season.

3. Three best honey-plants are, clover, buckwheat, and a late yellow flower that grows on the marshes. I do not know its name.

WM. MACARTNEY.

Steuben Co., Ind., Sept. 19, 1875.

1st. I had twelve colonies to commence the season with, some weak; have increased to twenty-six strong ones, and have taken 1,800 lbs. of honey, mostly of linden and bass-wood.

2d. Expect to get four or five hundred pounds more before frost.

3d. The poplar, linden and wild fall flowers.

4th. Poplar in May, linden in July, and fall flowers about the first of Sept.

W. W. OLIVER.

Marshall Co., Tenn., Sept. 9, 1875.

I commenced the season with six stands; added one swarm. Have taken 1120 lbs. of extracted, and 76 lbs. of comb-honey. Have 75 or 100 lbs. in surplus combs, not yet extracted. About 500 lbs. was gathered from sumac; the balance from a plant that I do not know the name.

G. M. HOADLEY.

Pettis Co., Mo , Oct. 6, 1875.

DEAR EDITOR:—I have 52 swarms; 48 gave surplus in supers. Have taken 3620 lbs. of honey from them—this averages 75½ lbs. to the hive. If the weather holds favorable, I shall get 4000 lbs. I don't extract much, as the comb-honey sells so much better. I get 25 cents for it by the quantity. Twenty hives averaged 100 lbs. to the hive. The bees of my neighbors will not average 20 lbs. to the hive. The three best honey-plants are, clover, linn, and buckwheat. JOHN M. BENNETT.

Bremer Co., Iowa, Sept. 10, 1875.

I have increased five weak stocks to nine good ones, and taken about seventy-five pounds of machine honey. No more honey this season.

We have five good honey plants: red-raspberry commences the last of May and lasts about three weeks. Two years ago I got all my surplus from it, as a severe drouth destroyed the clover; never got so much from it before in one season, for nineteen years. White clover commences about the middle of June and lasts three to five weeks, and is our main dependence. Bass-wood comes about the middle of July, and lasts only a week or ten days. Last year and three years ago most of my surplus was gathered from it. None this year. Buckwheat comes in Aug., lasting about three weeks; is very useful to the bees, but does not often give much surplus, as but little is raised. Golden-rod comes in Aug., and in Sept., lasting two or three weeks, and helps stock up hives with bees and honey for winter; seldom fails of helping some. This season raspberry and bass-wood failed, clover was extra good, buckwheat fair, and golden-rod doing nicely thus far.

A brother of mine, sixteen miles away, has increased one swarm to three good ones (had empty combs), and taken seventy-five pounds of machine honey.

J. L. HUBBARD.

W. Chesterfield, N. H., Sept. 6, 1875.

MR. EDITOR:—This has been a poor season for bees. From 140 stands at the commencement, I have now only increased to 190, and have only taken 5,000 lbs. of honey; that was gathered from mellilot and blue nervine. I consider mellilot the best honey-plant we have. My lowest average in eight years was 40 lbs. each; this year it seems that there was no honey in anything. I think catnip is the next best honey-plant to mellilot; of the latter, I expect to sow 40 to 60

acres next year. It will do to sow either in the spring or fall; I sow four or five pounds to the acre. If we expect profit from our bees, we must furnish them a plenty of honey-producing bloom.

Lee Co., Ill., Oct. 9, 1875. R. MILLER.

I put 80 stocks in the cellar; on March 29 I took them out in good condition, only losing two, but a few of them had the dysentery. For ten days they did splendidly. Then they commenced to "dwindle," and by the time the long spell of cold weather was over, I had 20 weak, and some queenless hives. We had no white clover nor fruit bloom. I sowed eight acres of alsike this spring. After the rain ceased, I extracted a few hundred pounds of really nice honey; it was gathered from rape. With alsike, rape and buckwheat, I think honey-raising can be made remunerative, besides the profit of it on a farm. A. STIBBS.

De Kalb Co., Ill., Sept. 13, 1875.

For the American Bee Journal.

Jottings.

Having bees, and having been associated with a practical apiarist for two years, and being an attentive student of apiculture, though on my first legs, I send you a few jottings, which will, like a "straw, show which way the wind blows," in the field covered by your journal. In Sangamon county, white clover being late, swarming was also late, of course, and when the little creatures got in the way of it, they certainly lost discretion. A neighbor bought a colony of bees at a sale in March last, and I lately passed five colonies, all natural swarms, in his door-yard, and he was expecting another. My own have not been so wild, increase *only* 240 per cent. and are now rapidly gathering nectar, which is abundant. I have both Italians and blacks, and the former will, under some conditions, have honey sealed up first, and will grow stronger without swarming. I procured my Italian stock from A. Salisbury, of Camargo, Ill., who, to my mind, is one of the most conscientious apiculturists and queen raisers of the west. You may notify your readers that a deal with Mr. Salisbury is always "on the square." He is a Christian gentleman, and I take great pleasure in referring to him, as his unostentatious manner has kept his merits as a queen-breeder and an honest dealer within too narrow limits, for the good of apiculture in the west.

The continued rains of June and July have produced a wonderful crop of "smart-weed" in every cultivated field, and roadside, and in the ditches and "swales." The golden flower of the "spanish-needle" meets the eye. In short, everything indigenous to this latitude as a fall honey-producer is in perfection, and bee raisers are happy. More anon. W. W. CURNUTT.

Rochester, Ill., Sept. 1, 1875.

For the American Bee Journal.

Practical Notes.

BEES AND GRAPES.

I have had bees and grapes for over thirty years, and I never knew them to eat grapes at any time. I have never had any of the tender kinds of grapes; mine have been the Isabella, Catawba, Concord and Diana. They grow near the hives, and sometimes shade them. Two years ago I took a cluster of Diana grapes and fastened them on a hive three inches above the entrance; the next day they were there all safe. I then took my knife and opened three, and the next day the three were eaten except the skins. I opened some more, and the next day they were eaten. Then I opened the rest, and they ate them, but did not eat any on the vines.

BEES LEAVING THEIR HIVES.

I have had bees leave their hives, and it was a mystery to me; but after a while it was plain enough. They would leave on a hot day; at first I supposed they disliked the hive, and put them in another, but after a while I found it was occasioned by the heat, so I put them back in the same hive, and then took cold water from the well and with a broom-brush sprinkled the ground and hive every half-hour until the air was cooler; and from this I learned in a hot day to sprinkle them when first hived, and also to raise the hive and give them air. I keep them in the shade.

Marcellus, N. Y. A. WILSON.

For the American Bee Journal.

Retrospection.

It is said "By others' faults, wise men correct their own."

It is desirable to be able to correct our own mistakes resulting in loss; and as far as may be, seek profit from the mistakes of others by avoiding instead of adopting them. I notice a few cases.

D. H. Ogden, Wooster, O. Seven old colonies. 25 new colonies, 40 lbs. of honey. This is 5 5-7 lbs of honey from each seven colonies. If we suppose it will require 60 lbs. for the consumption of each colony during summer and winter, we have consumed by the bees—surplus 40-1920—nearly 1-48. Then 1-49 of the product is surplus and 48-49 is consumed.

Jos. Clizbee, Woodbine, Iowa. Seven stands increased to ten—75 pounds extracted honey, 75-600=1-8; this is 1-9 of the product in surplus; and 8-9 consumed by the bees.

A. Boyd, Jay Co., Indiana. Doubled

his bees. No surplus. Much feeding required or loss in winter.

J. S. Brown, Winchester, Va. Forty-seven colonies, 200 lbs. surplus. Required for winter and summer consumption 2420 lbs. Surplus consumed, 200-2420; less than 1-12 lbs. That is a little less than 1-13 is given in surplus and a little more than 12-13 is consumed.

Should we be satisfied with a class of hives, giving us from 1-9 to 1-49 part of the product of our yields, gathered by our bees, and part of this extracted; when by adopting the best hive, we can have 2-3 of it in small surplus boxes suitable for market, at less than one-fourth the trouble and expense. With hives having from two to three thousand inches in the breeding apartment, and five to six lbs. surplus boxes of the aggregate capacity of 200 lbs. in intimate connection with the breeding apartment, from one to 200 lbs. may be averaged per colony; still the old course must be pursued.

Possibly, a survey of the whole field would disclose apiaries in hives of every class from which surplus was secured by smothering the colony with brimstone matches, by the box-hive with two or four surplus boxes on the top; by the large hive with side and top boxes; by the hive giving no place for surplus boxes, one giving surplus boxes for 20 pounds, another 60, another 100, and another 200 lbs.

That the last would be best for securing the largest amount, at the least expense, I have no doubt; but with some, the old methods are firmly and immovably established. Others have never heard of improvements; and it will require patience, perseverance, and effort to introduce to genial use, the best instrumentalities to secure the objeet. We depend much upon our excellent Bee Journals for the forwarding and success of the improvements. JASPER HAZEN.

Woodstock, Vermont.

For the American Bee Journal.

Comb Foundations.

DEAR AMERICAN BEE JOURNAL:—The invention of comb foundations meets a much-felt want. But don't it seem just a little as if some one in the ribbon business was making them, rather than one familiar with the wants of practical apiarists? At present they are made not to exceed six inches in width. Now, if to be cut up in strips for guide comb, this is all well enough, but many will want them to fill up entire frames. If a piece of foundation be large enough to fill the entire frame, it is easily fastened in, but if only six inches in width, then some pieceing must be done, and the bees will sometimes make bad work in such cases, to say nothing of the trouble to the operator in fastening in the pieces.

It may be thought that if a start of six inches be given, it is all the bees ought to ask, and they can make wax enough for the rest. Suppose the whole depth of comb required to fill a frame is eight inches; if six inches is furnished, the bees need to secrete wax for only two inches more, and they will readily do so, for some claim that they are better off to do some wax-making. But they will be almost sure to fill out with drone comb, thus depriving the comb foundation of half its value. Mr. Long, please give us at least eight inches in width.

B. LUNDERER.

For the American Bee Journal.

A Home Market.

All should endeavor to make as large a home market as possible. We should, before shipping our honey to the city, figure up the loss in breakage, cartage, leakage, and freight, and learn that it does not pay to ship any but our best honey—for dark honey is not in demand in the cities. I believe there is a great deal to be learned yet about the bee business. We can make a home market for thousands of pounds. The cry about adulteration, etc., has been a damage to the bee-keepers. All that "hue and cry" has been baseless and damaging to honey-producers. Consumers are now beginning to ask about adulterations, and, depend upon it, it is damaging the market. To all, we should say—keep still about it, and you will then be wise

Lee Co., Ill. R. MILLER.

For the American Bee Journal.

House Apiary.

Last Spring I concluded to try bee-keeping. I had one of "Coe's House Apiaries" built under the supervision of Mr. Coe. It is large enough to hold twenty-five colonies.

May 20th, I put in five colonies; only three of these were good for anything. I have now, Sept. 10th, 23 nice colonies, all working, and will store honey enough to winter.

This is my first experience with bees. Old bee-keepers tell me it has been a very bad season for bees. Notwithstanding this, I have taken more box-honey from my young colonies than any other bee-keeper in the neighborhood, though some of them had a greater number of colonies to begin the season with than I have now.

I think my success due mainly to the House Apiary. I do not believe any one who tries Coe's House Apiary for one season will go back to the clumsy out-door hive. I can take all the care of my

apiary, and find it only a pleasant recreation.

I see by the Gleanings that Mr. A. I. Root, of Medina, 20 miles from here, has built a House Apiary. And although he has not yet given the circumstances that led him to build it, I am quite sure he intends to do so, in justice to Mr. Coe, from whom he procured all the necessary instructions for building it.

M. J. STIBBS.

Wayne Co., O., Sept. 10, 1875.

Prevention of Swarming.

I had a little experience in trying to prevent swarming by clipping the queen's wings, as Mr. Langstroth suggests in a recent article. The queen would come out and try to travel to the swarm; but never tried to crawl back into the hive. Part of the swarm would find and cluster round her on the grass, after clustering on an apple tree. I returned her to the hive every day for about a week when one morning I found her dead. The whole swarm hung round the hive, all this time, and got so used to hanging round that they continued to do so until the young queen had hatched. When the honey season was over they had less honey than they would have had if the swarm had been hived at first. J. L. HUBBARD.

W. Chesterfield, N. H.

For the American Bee Journal.

Instinct of the Bee.

In building combs, bees make them a certain distance apart, and they should be kept frame to frame, just as the bees construct them. If artificial combs are mismatched, and not kept a uniform distance apart, such colonies will not do as well. For instance, if we take out one frame, and move the rest to make equal distances, they will be about three-eighths of an inch wider apart than the bees would naturally build, and the bees and queen could not readily pass from comb to comb. Bees go by instinct, and hence we should mark each frame, and place it back just as arranged by the bees. AARON BENEDICT.

Bennington, Ohio.

For the American Bee Journal.

Adulteration.—Mr. C. F. Muth.

On page 136, June number, Mr. C. F. Muth says: "I was astonished some time ago by one of our prominent (?) brethren, who maintained that sugar syrup, after it had passed through the honey sac of the bee, was as good honey as any." Can Mr. Muth, or any one else, tell us certainly what honey is? Is it not simply saccharine matter to which are added certain substances whose flavor indicates the source from which it is derived, as also its having passed through the bee's sac, and its having remained some time in the hive? If the securing of these three conditions makes saccharine matter into honey, why not regard syrup, in which they are found, as honey? Will not such syrup produce like effects on the person using it? Mr. Muth talks, in the same article, of the "acid" as wanting in adulterated honey; and this want seems to him to constitute the chief difference between the pure and the adulterated—an opinion which appears to me probable. This "acid" is supposed to be *formic*, from microscopic glands in the sac, and is very powerful even in the smallest quantities, if the testimony of my wife's stomach be as true as it is emphatic. There are many persons who are very badly upset by eating a little honey, who are not injured by eating syrup.

JOHN FOTHERINGHAM.

Woodham, Ont., Aug., 1875.

Michigan Bee-Keepers' Association.

The eighth Annual Meeting of the Michigan Bee-Keepers' Association will be held in Kalamazoo, Michigan, December 1st and 2d, 1875. The first session will convene at one o'clock, P. M., Wednesday. Papers of scientific and practical value have been promised by many of our ablest and most experienced apiculturists; while the discussions are expected to be even more valuable than those of the previous annual meetings. The reputation of this Society as being one of the oldest and ablest of the kind in the country, together with the proverbial hospitality of the people of Kalamazoo, should be ample inducement for all who take an interest in scientific bee-culture. We scarcely need to add that a cordial invitation is extended to all, that every effort will be made to make the coming session a grand success. HERBERT A. BURCH, Sec'y.

South Haven, Mich.

As bees breed no poison, though they extract the deadliest juices, so the noble mind, though forced to drink the cup of misery, can yield but generous thoughts and noble deeds.

The Los Angeles (Cal.) *Herald* says that at the present rate of increase it is estimated that there will be in four years one million stands of bees in Los Angeles, Santa Barbara and San Bernardino counties, which will produce annually one hundred million pounds of honey, worth $20,000,000, which is more than the value of the sugar and molasses crop of Louisiana, Texas and Florida combined.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, DECEMBER, 1875. No. 12.

Our New Year's Present.

In order to encourage the prompt payment of subscription to the AMERICAN BEE JOURNAL for 1876, we have concluded to make a New Year's present to all who shall *pay up all arrearages*, if any are due, *and two dollars in advance for* 1876, by the first day of January next. This present is a genuine oil-chromo, entitled, "Memories of Childhood," size 17x21 inches, designed and painted by F. B. Carpenter.

As there are but a few hundred of this magnificent oil-chromo in existence, those who want a copy of it should SEND EARLY, in order to secure it. We shall send it by mail postpaid, as fast as the remittances come, on and after the 1st of December, until all are gone.

It is an artistic combination of portraits and landscape, representing a group of four bright and beautiful children, engaged in out-door recreation under the shade of a venerable tree, from a branch of which is suspended a swing, in which sits a young girl, smiling on a lad who is holding a buttercup under her chin, as a test whether or not she loves butter; while another sweet girl, with a hoop in her hands, and another intelligent and dignified looking youth with his slate and books under his arm, are thoughtfully looking at the effect produced. There is also in the foreground a favorite Esquimau dog, which seems to take a deep interest in the proceedings; while in the background is a sail-boat on the lake lying at the base of a mountain. Flowers are in full bloom about them, buttercups in abundance. The picture is suggestive of modesty, innocence and SCHOOL-DAY JOYS. It is a delightful picture, suited to the school-room, drawing-room or parlor, and is one of the most valuable and acceptable premiums ever offered by publishers to subscribers.

Bear in mind, this is not a CHEAP picture gotten up expressly for a premium, but a genuine oil-chromo, having the imprint of the artist and the publisher, and guaranteed by us to give satisfaction.

The Centennial.

As a member of the committee for the Centennial, we are encouraged at the notices we receive from those who are preparing articles for our department of the Exhibition. Among others, John Long, of New York, writes us, and we give the following extract from his letter, hoping it may suggest ideas to others: E.S.T.

"In regard to the Centennial, I would say that I do wish to make a display in your department, and propose to do my part in rendering that department interesting. I am having constructed two observation hives, made of ornamental wood, richly carved antique Swiss style, one for an Italian swarm and the other a black swarm. These will be so arranged that the queen and inside workings of the hives will be fully displayed; the flight-board will be turned toward the wall of the building, which I will get permission to pierce and run a short tin tubing out from the hive, and put little flight-boards outside the building. I have tried this plan here, and it works well; the bees working nicely. I also propose to have two microscopes mounted on stands with black and Italian bees under each—have them entire and dissected, the objects to be mounted in the best way. In addition to this, I have some wonderful specimens of the bees' industry, such as glass castles well filled with honey, curiously wrought, urns, etc.; also specimens of comb and strained honey and beeswax from England, Scotland, Cuba, Texas, Chili, and our own country, embracing almost every known variety. The whole will be neatly arranged in a nice silver-plated show-case. If anything else comes within my reach, between now and the time to enter the goods, I will do my best to procure it, if it is an object of interest.

JOHN LONG.

522 Hudson st., New York.

ANSWERS BY MRS. TUPPER.

Please tell me how to smoke bees without injuring or killing them. This time of year they are so out I cannot put a smoking rag to the entrance without hurting them, and you say, when working among them *do not* mash *any*. How is it to be helped when they crawl so continually where they should not? I brush them back, but before I can put a honey-box on, they are out. Where shall I keep honey this time of year to keep it good? How many pounds of surplus honey should a good stand of common bees store in a season? J. M.

Do not put your smoker too near; blow the smoke among them at the entrance, and to avoid crushing the bees, have a small broom or wing and brush them out of your way, then a puff or two of smoke will keep them down.

Keep honey, at this time of year, in some dry upper room—not in the cellar.

It is impossible to tell you how much honey you ought to get from a good colony; seasons and locations differ so much. All the way from none at all to seven hundred pounds have been reported from one colony! 60 or 70 lbs. box honey is not an uncommon yield from a hive, this year, in some places; in others, even the best colonies have made no honey.

Please tell us how to cut the honey-comb and fit it to a small box of four to six pounds, which will look as if the bees had done it. My honey for market is in frames of from six to seven and a half pounds. I like to cut and fit it to the small boxes. J. M. TELLES.
Cass co., Ill.

Take the combs carefully from the frames and lay them on a folded cloth, as in transferring; cut into pieces a little larger than the box, slide and crowd them carefully into it. Put in the glass and set the box over a strong colony whose hive is filled with honey. The bees will fasten the pieces nicely in a short time, if it is done while the weather is warm.

How are we to know a fertile worker from a drone-laying queen? A friend of mine has two stocks without fertile queens. Eggs are found in both; in one eggs are found in worker cells, but the cells in which eggs are laid are extended one-fourth of an inch to give the desired length. The cells sometimes contain three or four eggs, and are left sticking to one side of the cells. In the other hive the eggs are all laid in drone cells, the bees removing the honey from them to give the desired room; the cells containing from one to half a dozen eggs or young larvæ. Both hives are unwilling to reserve queen cells and are doing very little. Are they both workers or unfertile queens? A SUBSCRIBER.

A drone-laying queen looks exactly like any other queen; a fertile worker, like a worker. It is easy to find a queen, even though she is a drone-laying one, but almost impossible to find a fertile worker. We think your friend's hives both contain fertile workers. Look over the combs and, if you find no queen, you may be sure of it.

Which is the most practical and profitable hive—one 8 frames 18 inches long and 11 inches deep, or one 14 frames 11 inches long and 14 inches deep?
W. G. W.

We do not like either size of frame named, as well as one 12x12 inches. No doubt bees can be managed in any frame, but that is our preference. If bees are kept with a desire to increase as fast as possible, a hive with 9 frames each, 12x12 inches, is large enough. If you want to secure the most honey possible, make a hive to contain double that number of frames.

Please tell me how to keep my bees safely through the winter. They have done well for me this summer, and I want to be sure they will live over. We have not many cold days here, when bees cannot fly; is it necessary to house them or protect them in any way?
BEEKEEPER.

If we lived in Southern Missouri, where this beekeeper does, we should try putting bees in a house or cellar. We think bees need protection just as much there as farther north. Sunny days draw them out of the hives; they consume more honey when thus excited, and there is nothing for them to gather, be the weather ever so pleasant; so nothing is gained by their flight. Whenever the season of rest comes to vegetation, we believe that it will pay to put bees away and give them a rest, too. We have never tried it in Missouri,

but we wish some one would, and keep bees in a cellar or bee-house, for at least three months, while no brood is being raised. We think they will come out stronger in spring for it.

Is it a disadvantage to the main hive to have a buckwheat swarm leave? Might it not rather be said that with fewer consumers, and a young queen, it was a gain?
D. C. M.

It would be a gain, no doubt, if the main hive were left strong in young hatching bees, and was sure of a fertile queen.

While doubling up weak colonies, how shall I prevent them from stinging each other to death? What is the best method of doubling up? S. CALLAND.

If one of the colonies to be united is queenless, there is no trouble in putting them together. If not, the queen may be taken away a few days before uniting, and it can then be done without more trouble.

If you do not care to do this, follow these directions: Smoke both colonies till quiet, then remove both from their old places; take another hive of the same kind as the ones to be united, remove the frames one by one from the hives, shaking all the bees into the empty one; then select the best combs and put them into the hive with the bees. All the bees living in a strange hive will unite quietly, and wherever they are placed, will mark the location, though we usually set them where the strongest hive was before. This can be done in quicker time than we have written it, and will never fail. We have often set a hive with the best frames arranged in it, right over the one containing the bees, and left them to go up at their leisure. It is hardly necessary to say that the combs left over must be put away with care out of the reach of robber bees.

Is it a good way to hatch out queens in small boxes over the brood? When they are hatched out, will they eat honey if it is placed in the box?
H. S. HARRISON.

We have hatched queens in this way in warm weather and had good success; but have failed when it was cool.

Young queens will eat honey rather than starve, but they do not thrive as they do when fed and nursed by the bees.

I see in the JOURNAL articles about the enemies. Our worst enemy is the martin or mud swallow. I opened the stomach of one young swallow and found 8 perfect workers in it. The law here forbids the destruction of birds' nests, and they are quite thick around this part of the State.
GEO. VAN VORIS.
West Fulton, N. Y.

Our friend need not be afraid of either the martins or mud swallows. They *do* catch insect, but prefer those which are smaller than bees. It would be well to remember that the martin is a larger bird, with somewhat different habits than the mud swallows, which one was meant?

I have heard it said that one acre of mignonette is worth 10 acres of buckwheat for bees, please answer through the JOURNAL, for my benefit and all others in the bee business. W. G. W.

Mignonette is an excellent honey plant, no doubt, but we do not think it so much superior to buckwheat. The seed for an acre would be very expensive and as it has no use but for honey, we don't think it would pay to sow it for that alone. We would like to have some one sow an acre and report.

Would you advise one who had no combs of consequence, and wanted to secure them, to purchase Long's comb foundation? Will it pay? J. C.

We answer "yes," most heartily. The comb foundation is valuable for those anxious to secure a supply of comb. It saves both time and honey to the bees, whether used in full size or in strips; to secure straight comb it is worth double its cost to the bee-keeper.

Bees here in this vicinity find next to nothing from July 1st to Aug. 1st, from which to gather honey. With what can we best supply that lack?
H. S. HEATH.

We have found nothing better than buckwheat sown from May 15th to June 1st, and coming into bloom through July, to fill the vacancy you complain of.

Does it injure the eggs, or young larva in the combs, to whirl them in the extractor? J. W. DUNN
Corpus Christi, Texas.

We have always thought, and our experience confirms us in it, that eggs and young larvæ are destroyed by whirling them in the extractor, though sealed brood

does not seem to be. Some bee-keepers do not think so.

Our bees do not often put more honey near the brood than they will need for its use, and we have found no advantage in taking honey from comb containing larvæ.

Annual Meeting North American Bee-Keeper's Society.

The fifth annual session of the North American Bee-Keeper's Society will be held in Toledo, Ohio, in the Druid Hall, 33 Washington street, on the first Wednesday of December next, (first day) at 10 A. M., to continue three days.

HOTEL ARRANGEMENTS.

We have arranged with the following hotels to entertain members of the N. A. B. K. Society; the prices named being fifty cents below their regular terms: Burnett House, corner Summit and Perry streets, Ed. Burnett, propr., $1.50; American House, St. Clair street, Gaines & Hamlin, propr., $1.50 per day; Hannah House, corner Market square and Washington street, $1.50 per day; St. Charles Hotel, Ottawa street, can entertain twenty-five or thirty at $1 per day, and is a good house. There were several other hotels whose names we forget. They will charge as above; there will be no trouble to find room for all who may attend, at the above rates.

RAILROAD ARRANGEMENTS.

We have arranged with the Toledo, Wabash & Warsaw R. R., to sell tickets to members and all wishing to attend. Tickets will be sold at 25 per cent. deduction from their regular rates. We are now writing to other ticket agents and hope to get the same deduction. I would say to all that wish to attend to enquire at their ticket office and ascertain if they have been notified to sell at reduced rates.

G. W. ZIMMERMAN.

☞In the letter of GEO. B. WALLACE, San Bernardino, Cal., published on page 256 of the November JOURNAL the printer made a mistake. Instead of his only having 32 pounds of honey, he had 32 barrels from 200 hives, besides several hundred pounds retained for home use, and several tons, yet in his two-story Langstroth hives, too dark for market. Also in answer, No. 3, instead of buckwheat, read buckwheat *grease wood.*

A NEW SYSTEM OF INSTRUCTION in the art of scientific bee-keeping has been exhibited in this office by Mr. A. G. Hill, of Kendallville, Ind. Mr. H. has seven to ten small model hives so arranged with frames on which are cards printed with representations of comb of all kinds, in all possible shapes and conditions. By means of these frames, he can explain to those unacquainted with the art of bee-keeping, how to divide and transfer, and how to so care for and arrange them as to make it a certainty in regard to successful operations. Mr. H. has gotten up type representations of comb in one-inch squares, by means of which he can produce a hundred different combs, with no two alike. With these model combs, all the operations pertaining to apiculture are performed and illustrated to instruct pupils how to successfully manage an apiary

This system is so simple and at the same time so complete that it cannot fail to interest the many thousands of farmers who keep a few stocks of bees in the old-fashioned way, and will induce them to make a science, of what they have heretofore taken but little or no interest in.

☞The adjustable table, an adjustment of which will be found in our columns, is not only useful for the purposes named, but may be used in the apiary to good advantage in securing swarms or transferring combs. Try it and see.

CORRESPONDENTS.—We point with especial pride to the very large list of correspondents to the old and reliable AMERICAN BEE JOURNAL, as exhibited in the Index found in this number. To all, individually and collectively, we offer our thanks for the very interesting matter furnished during the year 1875. We hope they will furnish us with their best thoughts and experiments during the coming year.

☞We employ no traveling agents, depending entirely upon local club agents and our volunteer friends generally, to keep up our circulation.

For the American Bee Journal.

Wintering and Springing Bees.

BY W. B. RUSH.

To the President, Secretary and Members of the Northeastern Bee-Keepers' Association:

GENTLEMEN:—Your letter, dated May 1st, was forwarded to me. Please accept my compliments for being placed on your list of honorary members, among men so worthy of the name of apiarists.

In accordance with your resolution requesting me to give a statement of my experience and results in wintering and springing bees, I will submit this paper to the Society. If it will assist in preventing the loss of bees during the winter, then my object will be attained. I had intended giving the Society an essay on bee-keeping for the whole year, but, on a second consideration, I decided to publish a pamphlet, compiled from past experiences, and the experiments of the best apiarists of the present time.

Wintering, to most Northern bee-keepers, is a serious subject, and has been for the past four winters; and the probabilities at present are that next winter will be the most trying one yet known.

But those south of the Mason & Dixon line have not yet felt the pangs of losing their bees; still, I shall not be surprised to learn of some new disease even there. There are few disputes on wintering, yet there are as many plans practiced as there are patent hives.

The summer of 1871 was an excellent one for honey, and I succeeded so well that I bought several colonies and decided to keep bees instead of dosing pills, but in the winter of 1871 and 1872 some disasters occurred, and I set about to meet them and make amends in the spring. I began different plans for springing, and commenced a series of experiments to learn for myself how to succeed. In the meantime I met with some sad losses.

In December, 1872, I found that a good many bees died, and many had the dysentery. Many were not aware that their bees were so badly diseased and starving until I called attention to it; to their surprise they found that not one-half of them would winter through. I bought a large number of weak hives, and several hundred pounds of empty comb. When I got my bees home I found several diseased and many starving. Now, what to do, was the question.

December 26th was a fine day; I then attempted to feed them, but that night it became colder; they were full and still eating. To raise the temperature, in the morning I put some of them in the cellar and wrapped a portion of them with carpets; I put ten in my room and the rest on their summer stands. All those in the room and part of those in the cellar had disease. In the room, I kept the temperature at 60 degrees. I saw they must have a flight and discharge the feces, but the temperature outside was 20 degrees above zero, and in the cellar it was 34 degrees. I let some out in my room, and they went against the glass and perished.

Jan. 1st, 1873, I made a glass box, 4 feet square on the end and ten feet long, put it in a warm room and set a hive on it; they flew out finely, discharged, went back and remained quiet. All that showed any signs of disease, I treated in the same way, and lost but one hive. During the next spring, I made a glass house to fly my bees in, which has since been called the "Bidwell cold frame," which he discovered in the beginning of 1874. Up to April, 1873, I had lost only one hive, but the next day I lost nine, by being robbed while from home.

I bought more in Feb., 1874—five with dysentery and three with foul brood. The first I put in clean hives with clean comb; I soaked the combs in tepid water for 24 hours, then rinsed them by pouring water on the combs from an elevation of six feet; I let them dry in a room and they were as good as ever. Those with foul brood I put in a solution—of rainwater, one gallon, carbolic acid, one half ounce—mixed and put in a wooden vessel. I uncapped the brood, put the combs in the solution and placed closely, so as to cover them; I left them in for 24 hours, and then took them out and put them in the extractor, and threw out the brood. I then returned the combs to a new solution and left them in 12 hours, and then extracted again. I then rinsed them as I did the others having dysentery, and dried in a room; when dry, I fumigated them with burning tar smoke.

Foul brood, in all the cases that I observed, was caused by excessive cold, and the fetid air from those already dead caused a continuation of the disease in the same hive. How long it would continue to spread, I am unable to say. Combs from hives with dysentery can easily be cleaned and used again withou danger, but I would not advise any one to clean those having foul brood, although I used combs from hives that had foul brood, and did not see any evil results; still, it is *not* safe.

Cold produces dysentery in *most* cases, but not in all. I gave dysentery to two hives by feeding sorghum molasses, and afterwards saw five hives dead that had been fed sorghum. I heard that it would do so, and it proved to be true. I produced it in another fine hive by feeding "*candied honey*;" the honey became thin, fermented slightly, and (as it always does)

candied. But, where I fed as directed in this paper, I obtained fine results. I do not apprehend that either of these diseases will occur, if prepared for winter according to these directions, in October. I cannot spare time to further enumerate experiments.

There are three ways that bees may be successfully wintered, yet none will be likely to succeed unless prepared for it. Time will only permit me to give printed directions, and not experiments and reasons. What has succeeded with me for three years, just past, will certainly carry through others.

The first plan is to build a regular green-house, leaving out the propagating beds and warming by one flue at back side; then paint the glass inside with a coat of white paint, so as not to allow the bees to see out, yet retain plenty of light. On the same plan you can build a house, excavate in the side of a bank (or make a bank) sufficiently, have your sills and plates 4x10 inches, studding 2x10, front posts 6 ft. high and back ones 9 ft. high for a building 12 ft. wide. Board up the walls on outside with inch oak plank, inside half-inch, fill in between studding with very dry sawdust, tightly bank up the dirt all around except at the door (and have that double), put glass on same as on a green-house, paint the glass to obstruct the sight; build thin shutters so as to cover over all the glass and darken the room; build a small shed by the door, put under it a big stove, pass the pipe into the room and have a drum on it to warm the room. Keep the room as near fifty degrees as possible, and on warm days open the shutters and let your bees have a flight, and they may be left open without damage, during mild weather. Have ventilators at the top, and should they become too warm, open the door at night. Inside you can arrange shelves, like steps, to set the hives on. About the first of November divide your colonies into as many as you have queens, and set them in this house. Should they need food before the first of February, give it to them in a comb, and place it in the hive; and in the same way, give water once a week. First of February commence to feed a small amount of syrup made from coffee sugar A. One lb. of sugar to same quantity of water; boil, skim, set away, feed regularly in the evening, continue to feed until blossoms come, then set them out. This is expensive, but cheap in the end, and a safe way to winter. You can increase your colonies for producing your first honey; you will also save *many* bees that would fly out in winter and spring, and perish. I have seen strong colonies perish in this way.

The second and third methods require the same preparations. These preparations should begin last of September or first of October. The first thing is, be sure your queen is prolific; have plenty of young brood, and, if not already in the hive, stimulate by feeding syrup, as follows: sugar 1½ lbs., water one pint (not tincupful), boil, skim, set aside until cool, add two teaspoonfuls of lemon extract to flavor and attract the bees, and which will often prevent the syrup from granulating; warm the syrup and feed in the evening until you have plenty of brood. It is very important to have plenty of young bees for safe wintering; continue breeding until you have sufficient bees to cover five combs on a frosty morning. Feed enough to make 25 lbs. of feed in the hive, and it is *important* that it is all capped over.

The first warm day in November take tin tubes ⅞ths of an inch long and ⅝ths in diameter, which are made as follows: take tin seven-eighths wide by fifteen-eighths long, bend it around a stick until the ends meet; open your hives, take out the frames and cut holes through the combs to fit the tubes, two and a half inches from the top, and at equal distances from the ends and each other, and two tubes to each comb, put in the tubes, and close up the hive. At this time examine the condition of the hives, and see if you have them all right, and if all right, leave them until about the 25th of November, or as soon as freezing begins. See that all is right, take out one frame of honey (if there is one uncapped, take it), and put an empty frame (I mean frame with empty comb) in the center of the hive. Have with you a piece of coffee sack (good thickness) the size of the top of your hive (inside), lay over the frames crossways two strips, a half-inch square, equal distance from ends and each other; now lay on the sack, then put on the second story (if you have one) and, if not, make a sack same size of the hive and fill with chaff and cut straw, so that when pressed it will be four inches thick, lay it on the hive and put on the lid, and lay on top of lid four bricks to hold it down; but if you have the second story put it on, and put on the second piece of sack and fill in with chaff and cut straw; contract the entrance to one-half the usual size, and see that mice cannot get in. Do not disturb the bees, until there has been a freeze of two or three days, then as soon as the weather moderates, go and take the straw off, and thaw and dry it, and in the evening put on again. Much ice and dampness will accumulate in the straw and chaff, caused by the respiration of the bees, which is considerable in cold weather. Cover your hives so as to keep off snow and rain, and have boards or corn fodder to protect them from the north and west winds. Repeat, drying the straw as often as there is a thaw; keep it on until fruit bloom, for they need it most when rearing brood. Do not disturb the bees any more than you can possibly help,

and do not take off the sack next to the frames, unless you have cause to warrant the removal.

The third method. You prepare the bees in same way as in the second. The only difference is, the colonies may be weaker than in the second method, but the same in all other respects. When prepared as above, put them in any *dry* cellar, with the temperature between 40 and 45 degrees. When I say dry, I mean so dry that no dampness from rain or mold ever occurs. Then put in as soon as freezing begins; you may put them in any dry room where the cold does not get below 33 degrees, for they are far better out than if frost reaches them. As often as the weather will admit set them out and give them a flight, but be careful not to let them get very cold, for they are very sensitive to cold, and cannot endure as much as though they had been out all the time. Place them where it is quite dark, and do not let in any light, nor disturb them at all. All the noise you can make does not interrupt them, but jarring annoys them greatly.

Nuclei can be kept by the first or third methods, but not by the second, nor even a weak colony. When I keep bees in the North, again, which I shall do (if life is prolonged), I will adopt the first method for all weak stocks and nuclei, if not for strong hives, and never use the third, unless I could *not* get either of the others, for as soon as it freezes in the cellar your bees are half ruined and balance badly damaged. The point in the third is to not allow the temperature below 33 degrees, and quite dry, then all is right.

If these directions are followed, and they are standard colonies, any one is certain of success. I never lost a hive by the second method, and only one by the first, but lost several by the third; and there was only a half-inch of ice in the cellar. The second will be one mostly pursued, and it you bring your bees up to the number one point, in October, it is as good as any and much the cheapest.

SPRINGING.

On this part of my article depends the success of a good yield of honey, *if* nature secretes any of her nectar in the abundance of her flowers, but if she fails, as she did in the last three years, in almost all the United States, then "wintering and springing" avalls but little. But we will hope; still strive and look forward to the favored day for blessings.

We will once more try and winter safely as we can, then spring them, and look for an abundant harvest. Spring them as follows:

As soon as the weather will admit, commence to stimulate breeding; warm syrup scented with lemon extract, if they have need of empty comb for the queen, then take out one filled with capped honey, and insert an empty one in the centre of the hive for the queen, and as soon as filled insert another. Feed regularly, for, as soon as you stop feeding, the queen quits laying eggs, and it takes several days to start her again. It is, therefore, of great importance to feed regularly until honey comes, and, in a case of a cessation of yield, then feed again, and as soon as honey comes you are prepared to take it. Should you have weak colonies, double up, for one strong colony can raise more brood than three weak ones for several reasons—weak ones are subject to the moth; they cannot hatch many eggs at a time; they cannot defend themselves from robbers, nor gather any honey, as it requires all their force at the hive and none to go abroad for stores; also requires a greater amount of honey in proportion, to keep up the temperature; keep them strong, if you have to put four into one. I again repeat, bring your colonies up to the highest strength possible, if you would secure large yields.

SUCCESS IN THE APIARY

depends upon close attention and proper care in wintering; stimulation in springing; these regularly attended to *will always give strong stocks* for wintering and honey season. Do your swarming after honey season is over.

Simpson's Store, Pa., April 17th, 1875.

For the American Bee Journal.

A few Words from Southern California.

I feel as though I must enter my protest against some of the sweeping assertions made in the July number, by R. J. Colburn, of Chicago, in regard to the bees and honey of Southern California.

After giving to that section the preference as the greatest honey-producing country of equal area in the world, he says; "I am further satisfied that its distance from good markets, and liabilities to the disease, known as 'foul brood,' as well as ravages from the moth, may reduce the high estimate some people have of it." True, we are quite a distance from market, but we cannot always get producers and consumers together. California wheat is the best the world produces, and it pays to ship to Europe; that may yet be our best market for honey; and at paying prices too. Then, the yield of honey is so abundent here, (in good seasons) and our losses of bees so small, that we can as well afford to ship our honey to Chicago or N. Y., as those who live nearer, and lose from one-quarter to three-quarters of their colonies every winter. As to 'foul brood,' it is something I know nothing about, never having seen any of it, nor met with any one who has in South-

ern California; but I have *heard* that there was some of it in Los Angeles Co.; and I am of the opinion that it will be found (if found at all) on low, wet lands, or near wine vats. I often hear the remark, that the two great draw-backs to successful bee-culture, in the "States," we do not have to contend with here—foul brood, and wintering.

As for the moth, occasionally, we find a worm in the hive, but not often; and I believe, with Mr. Longstroth, that a strong colony, with a prolific queen, need never fear the ravages of the moth; but a queenless one is almost sure to fall a prey to them here or elsewhere.

Again, he says: "In regard to the quality of California honey, it seems to be the opinion of every person who has tasted it, with whom I have talked, that it cannot compare with our white clover, except in looks, 'Novice' to the contrary notwithstanding. But its looks sells it." There is quite a difference in the quality of honey in different localities in Southern California. In the neighborhood of Santa Barbara—where we lived five years, and had some experience with bees—the early honey, gathered largely from alfillarilla (filarei—commonly called) is very fine; but the late honey gathered from the "tar-weed," mostly, is dark in color, and strong in flavor. The eastern part of this county, where there is abundance of white sage and sumac, produces as fine honey as the world ever saw. The early honey is equal to that gathered in Santa Barbara Co., from nearly the same plants; and the later, gathered from the white sage, I would venture to place beside *any* white clover honey to be found by *any* bees in any State in the Union. It is clear as water, thick, and of a flavor to tempt—mortals. Apiarists, who have kept bees east of the Rocky Mountains, and in California, give the palm to the white sage honey, above the white clover. The honey gathered from the sumac—not the eastern sumac— I *think*, is not quite so light-colored, tho' it is hard to determine, as it commences to flower before the white sage is gone. The white sage harvest commenced about the third week in May, and closed about the middle of July. The sumac commenced to flower the middle of June, and closed about the third week in July. I have conversed with those who have been in Los Angeles and San Diego counties, and they say that the white sage grows in great abundance in most of the mountain regions; so, I cannot but believe that the bee-keepers there get just as good honey as we do. I saw a statement in the *Bee-Keepers' Magazine*, several month ago, that a large shipment of honey had been made from California; but it was of inferior quality, and would probably remain long on the market. I understand that that honey was gathered in the neighborhood of Sacramento—how near I know not—on "tule" lands.

Now, it may be, that those persons who passed judgment on California honey, "tasted" of this honey; if so, according to all I hear, the taste of it must be in their mouths yet. I do not want to see California honey condemned on account of it, either. I am satisfied they never tasted white sage honey, or they would never say, "its looks sells it." I am sorry to see in G. F. M's. communication, in the August number, that most bee-keepers in this locality are losing money. Such is not the case here; and I do not "think the whole business overdrawn." A person cannot go into the bee-business in a comparatively new country, like this, and *live in the city*, where his family can have all the advantages of society, and make money. If he wants his bees to gather the best honey, he must *go where it is*, if it takes him to the foot of a mountain, or up a canyon. If he is able to keep his family in town, well and good; if not, let them share the hardships and deprivations, and get rich, (and I believe they will, if they stick to the business here) then move to the city and to society. Land in this or Santa Barbara counties, does not have to be irrigated to produce a crop, but if *well* farmed produces splendidly.

We started in this year with 80 colonies of bees in the Langstroth hive; have have taken off 850 boxes of honey, averaging 5½ to 6 lbs. each; shall probably take off fifty more. Have not got through extracting from the lower part of the hive, but have averaged over 33lbs to the hive as far as extracted. Have increased to 89 colonies. That will make about 1½ tons of extracted honey, and over 2¼ tons box honey. If this is a failure, I hope I may never make a worse one.

This has been a very poor season, not having any rain since Jan. 6th, to amount to a shower. We had a frost in April that did considerable damage to the bee pasture, and a dry, hot wind the 9th and 10th of May that dried up the flowers to such an extent as to nearly stop the gathering of honey, and the bees tore down all their queen cells. I have already made this letter too long to be acceptable, I fear, so will close. E. G. K.

Ventura Co., Cal., Aug. 9th, 1875.

For the American Bee Journal.

Why is It?

All our National Bee Conventions, are held in the dead of winter. If some Governmental power were to compel us to gather up our satchels, pull on our overcoats and overshoes, wrap up in our furs and push out on a trip of five hundred or a thousand miles through frost and snow,

sleet and rain, in the dead of winter, we should be very apt to make ourselves heard at the seat of power; yet annually, we impose these conditions upon ourselves with our eyes wide open, thus compelling a very large number of bee-men to stay in their comfortable homes, rather than face the perils of winter travel.

All our agricultural fairs, both State and county are held in the months of September and October, when all can enjoy the luxury of the season and feast on the fat of the land; but bee-men take back seats until all nature is frozen in. Then one by one they collect in some Northern city: say Pittsburg, Cleveland or Toledo, shut themselves in from the outside world, dispute with one another for a day or two, see nothing and learn but little. Then go shivering home to await the approach of another winter and another convention.

Now, Mr. Editor, these are my arguments for a change of time, to a much earlier day for our National meetings. To myself personally, it matters but little; but it may be of importance to the bee-keepers of America. J. W. BAYARD.

Athens co., O., Nov. 14, 1875.

For the American Bee Journal.

A Wild Swarm taken in and cared for.

While hunting wild strawberries on the first of July, 1872, I found a swarm of bees in the grass clustered on an oak grub. I put them into a Langstroth hive. They filled their hive, and made me about thirty pounds of box-honey. In 1873 they swarmed once, and both swarms made honey enough to winter on, besides about twenty-five pounds each of box-honey. In 1874 both swarmed within a few minutes of each other and of course clustered together, and, to clap the climax, both ran away. I had one more good swarm from them and two small ones, which I united, making me four good swarms to commence this year with. My surplus honey for 1874 was only about fifty pounds. I have wintered in the cellar and for fear of the bees, have, until this season, depended on natural swarming. This spring, while taking them from the cellar to their summer stands, one got tipped over, spilling out the bees, frames, and making a general smash of nearly all their combs. I had to fix up, put on my bee gloves and pick up the bees and frames with as much honey as I could, and put them back into the hive. An examination after a few weeks showed them to be trying hard to repair the sad mishap; but they were very weak in bees. I therefore changed places with this and my strongest hive. This strengthened the weak one, but the loss of so many honey gatherers from the strong hive, made them kill off their drones, under the impression that the honey supply was cut off. They both were apparently about ready to swarm on the first of August, when I took about two frames from each and made a new swarm. All three are doing finely and from present appearances will give me about fifty pounds of box-honey. My two strong stocks swarmed early; I saved both swarms, and in a few days, each swarmed again; both of these I saved. One of them not being very strong, I gave it a frame with brood from an old hive that had killed its drones. The first swarm of my two strong hives have also swarmed. The first came out unexpectedly and settled on a tree, and was not discovered until just before it took its flight for the woods. The other swarmed about the middle of August, but went back to the old hive again without settling. It swarmed again about the 30th of August and settled all right, but I thought it was "fooling," so returned it to the old hive again. I examined it however, that day and found, they had swarmed on purpose. I therefore divided giving each about half the comb and a queen cell. I examined them yesterday, both are working nicely and have plenty of fresh laid eggs. All my hives are working in boxes except the two last divided. From one of my strong ones that swarmed twice I have taken two five-pound boxes, and they have three twelve-pound boxes nearly ready to come off now. One of this season's stocks that has swarmed, now has four small boxes on it, in which the bees are working strongly, and I also took from it this morning a full box weighing between fifteen and sixteen pounds, including the box. My four swarms of last spring, notwithstanding the smash-up and one swarm lost in the woods, have now increased to ten. I have taken about forty pounds of box honey and about one hundred and twenty pounds more in sight on the hives. Our bees pasture on linn, buckwheat, golden-rod, smart-weed, and a plant looking something like "touch-me-not;" It grows in wet places, and has a yellow blossom.

MRS. MORRIS MCHENRY.

Crawford co., Iowa, Sept. 8, 1875.

For the American Bee Journal.

Amateur.

When I tell you that I have since the 10th of May, and with only one assistant, transferred 186 hives of bees, for myself and neighbors from old box hives to movable frames, and have taken over 20,000 lbs of honey, you can well imagine that we have not been idle. And the beauty of it is that we have not a *single crooked comb* in our whole apiary of 150 hives; 100 of them having 17 combs per hive and the remainder are two-story hives, with 12 combs below and 12 above, making a

total of 2,900 combs—all straight and nice.

I have been through the rub in securing straight combs, and know how to appreciate them. The best way to secure straight combs is to have all frames filled in full colonies with good queens, and an empty frame between two straight worker combs, near the entrance of the hive.

In transfering it is not expected that any one will put comb into one-half of the frames in new hives, therefore I would advise all to alternate the frames, containing comb with those having no comb, being careful not to spread brood too far apart, so that it will not be protected by the bees.

Our sage honey is much harder to throw out with the extractor than the white clover honey, or any other kind of honey for that matter. It is very thick and stiff. But I have succeeded in throwing out 1170 lbs in one day without an assistant. I fancy that there has not been many better day's work with the extractor than that. Probably you would like a discription of

MY EXTRACTOR.

It is a can made of a single sheet of galvanized iron, 2x6 feet, and makes a can 22 inches in diameter and 22 inches deep, with a bottom of the same material. The gauze frame is made by taking a square rod of ½ inch iron, 26 in. long, and drilling a ¼ inch hole through both ways 5 inches from the top and the same 16 inches (or the length of your frame) below these holes as well as the same at equal distance between the upper and lower holes. Then take six rods of iron ¼ inch and 21 inches long, cut thread on both ends of every rod 1½ inch long and have taps for same. Put the rods through the holes in the center rod, and fasten them just in the middle Now take four ⅜ inch round rods 16 inches long (or the length of the frame) fasten at both ends and in the middle, drill ¼ inch holes through, so that you can slip over the ends of the rods, you put through the centre rod.

Put on the tops first, then put on the last rods. This makes a frame work around which you can stretch your wire gauze. Have the meshes in the gauze at least ¼ square, cut the gauze the proper length to go around your frame when the taps are screwed down and sew the ends together very securely. After the gauze is well fastened, the taps can be turned out towards the ends of the rods, and tighten the gauze to any required tension; The tightness of the gauze has a great deal to do with a good extractor. Put in cross bars of iron or wood at the bottom of the gauze, on which to rest the frames. The center rod is put into a tap, soldered on the centre of the bottom of the can, with a square shoulder to prevent its jumping out. You can use gearing at the top if you like, but I prefer a good solid crank about 4 inch long. The center rod turns through a hole in a bar of wood across the top of the can and holds to its place by the handles of can, each end of the bar run through a handle and secured by pins on outside. A lid is fastened to this bar on each side. Thus you have an extractor, which will empty four combs at once, and is as light and durable as any I ever saw.

If any one has taken more than 1170 lbs of honey in one day they have beaten

Orange, Cal. AMATEUR

For the American Bee Journal.

Nellie's Experiment.

We were awaiting the bass-wood harvest. Our bees were of one mind—determined to swarm. We were equally determined that they should not swarm. We had shaded, and sprinkled, and watched, and now and then, when the case grew desperate, we had steeled our hearts and clipped the wings of a queen.

But one bright Sabbath morning, taking treacherous advantage of our absence at church, our fair Marjorie Daw led forth her colony into unknown recesses of the green wood. Then we clipped the wings of the queens to all our strongest colonies. But colonies grow strong (or seem to) in a single night, sometimes; and so it happened that soon thereafter a large swarm was sent forth by a colony we had accounted small.

Scorning the convenient cherry trees at hand, they started in a wavering, undecided course across the oat-field, toward the woods. Over every stump they seemed to pause for consultation; now and then they fell back, but only to disappoint us by again advancing. As we followed in their wake, Nellie said,

"They fly so low—we might stop them, I believe. They shall not reach the woods," she added with sudden resolution.

Not far distant was a small wild cherry tree—so small that Nellie easily bent down and broke off its leafy top. With this she hurried on and around, stopping some little distance in front of the fugitives. At first the experiment seemed doubtful, and in the end proved but a partial success. A strong detachment of the bees returned to their hive, the remainder clustering upon the branch which Nellie triumphantly held above her head. Before returning them to the old stand, we made a careful but fruitless search for the queen through each division of the colony.

Satisfied, at length, that she had been lost, we returned the swarm and gave the colony a perfect queen-cell in place of the numerous half completed cells which we had ruthlessly destroyed.

The next afternoon the swarm again

came forth, and under the escort, as it proved, of the queen we had thought lost.

Nellie caught up her branch, now somewhat dry and withered, and hurried to the place in the oat-field where she had stood on the preceding day, and toward which the swarm was again moving. With respect to the risk she incurred, I had remonstrated sufficiently, but to no effect, the day before. So, now, I only hastened to carry a hive, sheet, etc., to the spot. The bees did not hesitate, as before, about accepting the position assigned them, and that the whole swarm would alight soon became evident.

"Is that branch strong enough?" I inquired, anxiously, as the cluster grew larger.

"Of course it is," said Nellie, re-asuringly.

"And are you strong enough to hold it steadily to the end?"

"Quite so! Don't worry, Cyula! If the swarm should come down about my head there will only be another bee or two in my bonnet!"

Just then, glancing toward the house, which had been left alone, I caught the flutter of a white dress, and a moment later had decided that the dress belonged to the minister's wife, and that the broad-brimmed straw hat, just coming round the corner, was worn by the minister himself.

"What shall we do?" I cried, painfully conscious that I could not leave Nellie alone with that mass of bees above her head.

"Perhaps they will not see us, and will wait a little to rest in the shade," suggested Nellie.

Vain hope! we were espied the next moment, and our guests advanced curiously to the edge of the oats, where, after such exchange of courtesies as was possible at that distance, they stood witching the scene.

It was very warm. The sun beat down fiercely alike upon our callers and ourselves. Nellie stood motionless as a statue, holding her loaded branch aloft with both hands. I fancied that her wrist trembled a little now and then, but this she indignantly denied. The bees were gathering with usual rapidity, but the moments were unusually long.

Nellie had just promised to let me help her lower the bees, if I would but wait for them to gather, only one moment longer, and I had turned once more to see if our friends were still watching us, finding, to my relief, that they had retired to the shadow of the house, when, suddenly, an ominous, sharp cracking behind me——

I am ashamed to say that I did not even urn my head. I only jumped a long way urther on.

The catastrophe was almost simultaneous with the warning. As I turned, the mass of bees came down with the broken branch. Fortunately, Nellie had been able to give it a partial inclination and the greater portion struck the sheet. But it is needless to say that bees were sent flying and falling in all directions. Never before had either Nellie or myself been caught in such a shower. Nellie, as was natural, was the more plentifully sprinkled. To my breathless inquiry—"Are you stung?" she responded,

"No! hurry them into the hive, Cyula, and don't mind me!"

But a moment later, when she had shaken the bees from her hat and dress and stepped back a little, I heard her murmur—

"One, two, three, four,—only four."

Then I ordered her to the house forthwith; and mindful of our neglected guests, if not of my suggestions of ammonia, etc., she obeyed.

When, after a little time, I was able to follow, I found her regaling our guests with the last strawberries of the season, and entertaining them with a description of our adventure. She was dwelling upon the narrow escape Cyula had had, and the *presence of mind* (!) Cyula had shown in springing forward at just the right moment, almost from under the falling swarm. Despite the fact that her hands were swollen to a more than comely plumpness, and that one cheek bore ludicrous resemblance to that of a provident chip-munk, she had evidently succeeded in conveying to our friends the impression that her own share in the transaction hah been of quite secondary importance.

As soon as I could obtain a hearing, I proceeded to reconstruct Miss Nellie's statement,— i. e., to put her facts into their proper relations, and to set them in their true light. And then, honor having been awarded where it was due, I decreed that this should be the last experiment of the kind that should be tried in our apiary.

"Yes," said Nellie, "for next time I will make sure that the branch be perfectly fresh and strong!"

CYULA LINSWIK.

For the American Bee Journal.

Maury Co. (Tenn.) Meeting.

The Maury County Bee Society met at the Recorder's office on Saturday, the 9th. There was a good attendance, nearly every portion of the county being represented. The meeting was called to order by Mr. W. S. Rainey, after which the minutes of the previous meeting were read and adopted. The constitution submitted at the last meeting was taken up and acted upon, section by section. Articles first, second and seventh adopted as read. Ar-

ticle fourth, so amended as to make the term of office twelve months, and the number of the Executive committee, three. Article fifth, amended to make all committees, except the Executive, appointable by the President. Article sixth, the stated meetings were fixed on the first Saturdays in January, April, July and October. Article eight was so amended as to require all amendments to the constitution to be made at a regular stated meeting. The constitution as amended, was then read and adopted as a whole.

The society then went into an election of officers for the next ensuing year, with the following result:

W. S. Rainey President; C. C. Vaughn Vice President; Wm. J Andrews Secretary and Treasurer; Dr. A. T. Boyd, David Staples and J. J. Jones were elected as the Executive Committee.

After the close of the regular business Dr. A. T. Boyd delivered an address on apiculture. We will not attempt to give the whole of the lecture of the Doctor, but simply the heads of the different points he touched upon. In the first place he spoke of the kind of HIVE which should be used, that no one could be a bee-keeper and thoroughly understand his business, unless he used the movable frame hives.

SWARMING.

He did not believe in artificial swarming: preferred natural. Spoke at some length of after swarms. Thought one swarm sufficient and that all after swarming should be prevented. He clipped the wings of his queen; then when they swarmed, the queen fell upon the ground and he had no trees to climb nor large limbs to saw off. When the queen came out and fell to the ground he covered her with a small box; he then moved the hive from which the swarm had issued to a new position some twenty or thirty feet distant, and placed a new hive on the old stand. That as soon as the bees missed their queen they would return to the spot from whence they had issued in search of her. When they had sufficiently settled, he released the queen from the box in front of the hive, and allowed her to crawl in to the bees. His experience was that the moving of the hive from which the swarms had issued, would as a rule prevent any after swarms, but it was not infallible—that he had known after swarms to come from them. He made it a rule to return all after swarms to the hive from which they issued, and had never known bees to desert brood.

AGE OF BEES.

It had often been said that bees were short lived; this he was fully aware of, and any one could very easily satisfy themselves on that score. He had himself removed on the 12th of August a black queen from a hive that had only black bees in it, and introduced a yellow queen, and to-day it had very few black bees in it—in fact, it was difficult to find them. This went very clearly to prove that the bees were very short-lived, that a great many were destroyed on the wing. It was therefore very essential to have a fertile queen to keep up the stock from the waste of life.

VENTILATION.

There should be upward ventilation in winter. The bees themselves would generally regulate their own ventilation. Winter ventilation was necessary to prevent combs from becoming mildewed and from freezing.

ANGER OF BEES.

He had found all kinds of bees different in their anger. Some of the same species being more gentle and much easier handled than others. The best thing to subdue their anger, was to make them fill themselves with honey; a bee filled with honey never wants to sting. Bees always filled themselves with honey just previous to swarming. Another thing to prevent them from becoming angry, is gentle and quiet handling; a person should never make any quick motions about their bees, but their movements should be slow and deliberate.

THEIR ENEMIES.

While the bees had many enemies, he regarded the moth the worst, but with good strong colonies and a fertile queen, they were not to be dreaded. Moth-proof hives were a delusion and a humbug. The Italian bees protected themselves better from the ravages of the moth than the black bees; had never seen a black bee working at moth webs, have frequently seen the Italian at it.

REARING QUEENS.

On this subject he deemed it useless to say very much. It was presumed that every bee-keeper understood this branch of the business. Queens were hatched in about twenty-one days, and were fertilized in the air. Unfertile queens were drone layers—a fertile queen will commence laying in a few days after being hatched, an unfertile in about three weeks. The queen is much longer lived than the worker bee. They frequently become barren when two years old. Queens are enormous eaters. They lay from one to three thousand eggs a day. Early reared queens he regarded as much the best.

THEIR KEEPERS.

Thought the bees were controlled very much in all their acts by scent more than sight. Thought they knew their keeper from other persons by the scent of his body.

WINTERING BEES.

Their supplies frequently became exhausted during the winter and early in

the spring. In that case they should be fed. Sugar candy he thought a very good food, but honey was the best. In the spring there was usually many disagreeable days—during such days it would be best to feed all a little. He prepared his bees for winter by putting cotton, mote and seed on the top of the hive, which afforded them sufficient ventilation, and absorbed all dampness and prevented a cold draft through the upper part of the hive.

The above is but a poor brief of the Doctor's remarks. He said he intended talking on several other points pertaining to bee-culture, but found that he had already taken up too much time. At the close of Dr. Boyd's remarks, Mr. David Staples made a few remarks. He differed with the Doctor about upward ventilation, he did not want any in his hives—thought paper the best absorbent to use. He extended his remarks at some length on his system of Rarey-ing bees, as Rarey did animals. He introduced queens by shaking them from the frames and subduing them, until they become perfectly quiet and peaceable. He then dropped the queen among them and let them re-enter the hive together. Mr. Staples said he had been working for some days in sorghum, and had noticed that his bees worked very freely on the stumps of the cane. The species of sorghum that he had cultivated was what was known as the red-top variety. In cooking the syrup the bees rapidly took up any that was dropped. He had examined his hives and found that they contained pure sorghum syrup. He intended trying an experiment with a half dozen hives by extracting the honey and feeding them on sorghum and thought it might be a cheap winter food. It had been tried North—knew that it would not do there, but thought it might do South. Mr. Staples continued his remarks to some length on feeding—as a stimulant to bees he always used sour syrup, as they would not store it in their cells.

Mr. J. J. Jones differed with Mr. Staples, and said his bees would not eat sorghum. In reply to a question as to the best preventive of ants it was decided to be diluted salt.

The subject selected for discussion at the next meeting was "Feeding bees—its mode, object and result" and also "Queen rearing."

Wm. J. Andrews offered the following resolution which was unanimously adopted.

Resolved, That all the Bee-keepers of Maury county be invited to each meeting of this society, but only those who pay the society fee, and sign the constitution to be entitled to a vote or to participate in the business of the society.

W. J. Andrews stated to the society that Mr. Horsly had informed him that he would be glad to have any communications from any of the members on the subject of bees, which would be of a local nature.

It was moved and adopted that Mr. David Staples, be requested to deliver a lecture at the next meeting, and in the event of his being unable to be present that S. D. McLean should do so.

The society then adjourned to meet again the first Saturday in January, 1876.

WM. J. ANDREWS,
Secretary & Treasurer.

For the American Bee Journal.

The Southern Kentucky Bee-Keeper's Association.

The Association met at Burksville, Ky., on Wednesday, Sept. 15th, 1875; officers present: Dr. N. P. Allen, President, H. W. Sanders, Secretary, R. A. Alexander, Assistant Secretary.

The President called the meeting to order. Prayer was offered by Mr. R. A. Alexander, of Warren county.

On motion the calling of the roll was postponed. The proceedings of last meeting were read by Assistant Secretary R. A. Alexander. On motion the same were unanimously adopted.

The following named persons became members of the Society:—

Jas. H. Richie, Burksville, Ky., T. H. Hancock, Burksville, Ky., Geo. N. Allen, Grider, Ky., Ed. B Pace, Marrowbone, Ky., F. C. Baker, Burksville, Ky., J. G. Allen, Grider, Ky., Mrs. Jane E. Allen, Grider, Ky., Miss. M. L. Allen, Grider, Ky., Mrs. Lucy Hancock, Burksville, Ky., H. C. Baker, Columbia, Ky., Daniel E. Baker, Burksville, Ky., J. B. Allen, Grider, Ky., Mrs. H. M. Richie, Burkesville, Ky., Mrs. Josie Dunn, Burksville, Ky., Mrs. Lou Pace, Marrowbone, Ky., Mrs. Bettie Cheek, Burksville, Ky., R. M. Cheek, Burksville, Ky., Jas. A. Gilmer, Burksville, Ky., M. G. Akin, Grider, Ky., E. Ammons, Burksville, Ky.

President Allen made an instructive and interesting address which was favorably received.

A communication was read from Mr. Frank Benton, of Knoxville, Tenn.; and the Secretary was requested to return the sincere thanks of this Association to Mr. Benton, for the very valuable information contained in this paper.

Deferred business. The third question for debate, left over at the last meeting, was then taken up:—"What is the best vegetable to cultivate for bees to gather honey from?"

Mr. Cheek said, he thought buckwheat the best, as it could be sown so that it would bloom in July and August, and furnish rich pasture for our bees when there was none to be had from other sources.

Mr. Alexander said, I would sow turnips in the fall, for early pasture for bees in the spring. It furnishes pollen in abundance. Then came fruit blossoms and white clover, which pays, not only for bee purturage, but are valuable crops to cultivate. Then, there is mustard, catnip and buckwheat that are rich honey-plants.

Mr. Hancock spoke as follows:—Mr. President, I see no reason why these hills should not flow with milk and honey. I now propose to become a teacher—have others do the manual labor and I will do the head work. I think we should cultivate the honey-locust in hedges, and hedge up all this ridge land, and plant it in fruit trees, and sow it in white clover. The clover is fine for hogs, the apple crop is valuable, and if boiled and fed will pay better than making brandy.

Mr. Richie remarked, I think the honey-locust a good honey-tree, but it will not bloom in hedges, and it is not pleasant to come in contact with, as it is full of thorns. I agree with Mr. Alexander in regard to the turnip bloom, as it affords early pasturage, that is invaluable.

The President said, that turnips and all the small and large fruits afforded excellent bee parturage, but that the white clover stands at the head of the list as a honey-plant, affording the finest honey and the greatest yield of all the honey-plants. The poplar, linn, sour-wood, and other forest trees might be cultivated with profit. For late summer and fall pasturage he would recommend catnip and buckwheat.

On motion, the President appointed the following committees, with instructions to report at afternoon session:—

Committee on state of Bee Culture in southern Kentucky, with instructions to report the number of hives owned by the members of this Society, the kind of hive, the variety of bees, and their value:—

R. A. Alexander, H. W. Sanders, F. C. Baker, R. M. Cheek.

Committee on Questions for Debate at evening session:—

Wm. Cheek, T. H. Hancock, H. C. Baker, J. H. Richie.

Committee on Hives, Extractors, etc.:—

R. M. Cheek, James H. Richie, M. Hancock.

The Society adjourned till 2 o'clock P. M.

AFTERNOON SESSION.

The Convention met, President in the chair. The question was taken up:—"When should bees be fed?"

Mr. Alexander said, for stores to winter on, feed in early fall with sugar syrup in time for them to cap it over. To feed for brood raising in early spring, commence about six or eight weeks before the honey-harvest, so as to have them strong when the harvest comes.

The President agreed with Mr. Alexander, and said, they should be fed when they are gathering no honey, in the spring or in the summer, during long wet spells or excessive droughts. It was often the case that they would stop brood-raising; a little feed at such times paid well.

Mr. Richie said, he had found feeding for brood raising very beneficial. He gave an account of a natural swarm that he gave a sheet of brood-comb, and in two weeks they had filled their hive full of comb, every cell being filled with honey, and not an egg or young bee could he find in the hive. The bees swarmed and he hived them in a new hive. They did well, filling the hive with comb, brood and honey.

Mr. Cheek said, the most important time to feed was about six weeks before the honey harvest was expected. To continue feeding up to the time the bees began to gather honey, then the hives would be strong in numbers, and the extractor could be used every four or five days.

The committee on Questions for Debate reported the following, which was adopted:—

1.—The best time and manner of transferring bees.

2.—Moth preventatives.

3.—How to winter bees most successfully.

The committee on Extractors and Hives reported as follows, report adopted:—

We have examined some kinds of extractors and hives, and think an extractor with a stationary can the best, and recommend the Langstroth hive.

Your committee with instructions to report the number of hives owned by the members of this Society, the kind of hives, variety of bees, etc., have not been able to get a complete report from all the members, but beg leave to report the following:—

Number of black bees in box hives, 101. Value of same, $505.

Number of black bees in movable frame hives, 284. Value of same, $2,840.

Number of Italian bees in movable frame hives, 234. Value of same, $3,765. Total $7,110.

The question was then taken up, "The best time and manner of transferring bees?"

The President being called on, said, he preferred early spring for transferring, as there was but little brood in the hive then and not so much honey. The combs were lighter and could be handled easier and with better success. As to the manner, he would first blow in smoke at the entrance until the bees were subdued, then invert the hive and place on it a box to secure the bees, tie a cloth around to keep the bees from coming out, and by drumming on the hive fifteen or twenty

minutes, the bees with the queen, would pass up into the empty box, which could then be set on the old stand and the sides of the old hive could be pressed off, and the comb, brood, and honey taken out, put in frames and hung in new hives. Preferred wire to hold comb in frame. Put the new hive with the comb, etc., where the old hive stood, or in a new place if preferred, and proceeded to hive as a natural swarm.

Mr. Cheek said, his manner of transferring was similar to Dr. Allen's, but preferred driving out the swarm, putting them in a new hive and waiting until the old hive would raise a queen before transferring.

Mr. Hancock said, he preferred to have a young queen to give the hive instead of waiting for them to raise a queen, as they would not lose any time on account of being queenless.

The remaining questions were left for debate at the next meeting of this Society.

On motion, the following persons were appointed to collect the best honey-producing flowers in their respective localities, and to send specimens of all flowers of a doubtful names to THE AMERICAN BEE JOURNAL, with the time of blooming, etc., requesting the true name; the committee requested to report at the next meeting of this Society:—

Wm Cheek, Cumberland Co., Ky., B. A. Alexander, Warren Co., Ky., H. C. Baker, Adair Co., Ky., Dr. Stevenson, Barren Co., Ky., James Erwin, Allen Co., Ky., T. E. Shelton, Logan Co., Ky.

The thanks of this Society were tendered to the Grange for the use of this hall, and to the citizens of Burksville, for their hospitality.

On motion, the Association adjourned to meet on the third Wednesday in October, 1876, at 10 o'clock A. M.

N. P. ALLEN, President,
H. W. SANDERS, Sec.

For the American Bee Journal.

Two Queens in one Hive.

In April, 1872, I purchased a hive of "Crugers" in box, and when I transferred to movable frames in May following, I found queen cells capped and nearly ready to hatch; a laying queen, which from appearance, was at least one, if not two years old (it was too early in the season for a queen to have mated, as no drones were then flying,) and an old queen very much reduced in size, with wings almost entirely gone. She must have remained from the previous summer in the hive with her daughter.

In May, 1874, I formed a mammoth hive of 32 frames from my other stocks, by taking brood from those likely to swarm, and introduced a very prolific queen. On June 16th, I found queen cells nearly ready to hatch, which I removed. On June 23, I again examined the brood nest in the same hive, which was arranged with two entrances, one at each end, and found queen cells capped but no queen was to be found. The young queen became fertile, and took charge of the brood department. On August 9th, I examined the entire hive, and found to my surprise, that the old queen had removed to the other end of the hive and was mistress of an independent colony while her daughter occupied the old brood nest. They remained in that condition until in the latter part of September, when I separated them by a division board.

I now have a colony, situated at some distance from my apiary in which there has been two queens since about the 20th of July last. The mother is purely fertilized while the daughter has mated with a black drone. The larger portion of the stock is now hybrid, yet there are some young bees which I am satisfied are the progeny of the old queen. On examination last Monday I found both queens on one card, both apparently engaged in laying eggs, but the older one much less active than her daughter. If she is there when next I visit the vicinity, I will remove her and introduce her to a new colony, with a view of testing her ability as an egg layer. She is only three years old, but was crippled in her wings, by the bees when introduced to her present home; since which time, I have prevented her swarming by dividing, except in one instance, in 1874, when she was returned to the hive, after a vain effort to go with her swarm.

There will be no surplus honey in this locality this year. My hives are at this date, Sept. 17, crowded with brood and very populous and well supplied with honey in brood department, and if weather is favorable I may be compelled to extract some from the center of the hives as the queens become crowded out of laying room. Success to THE AMERICAN BEE JOURNAL.

J. E. R.
Lima, Ohio.

Burying Bees.

As there seems to be such varied success in wintering bees by burying them, I will endeavor to give my experience. Before I commenced bee-keeping in movable-comb hives, I was very much interested in the business by reading the *Bee Keeper's Journal* and the Text Book, and thought I had learned enough from them to make me a successful bee-keeper; but I soon found that I was mistaken; that I would have to learn more from actual ex-

perience than I had ever learned by reading, if I ever became a successful apiarist.

One fall I had thirty stocks of black bees, and not having a cellar to winter them in, I concluded to bury them, as I had read considerable in favor of it. I dug my pits long enough to hold from three or four to ten stocks each, and wide and deep enough to pack under and around and between them with corn stalks, and over them with straw, and then have the tops of them just below the surface of the ground. I then covered them with six or eight inches of earth, as near as I could guess. My hives were of various kinds — movable-comb and some box hives—in most of which I had made large openings in the tops for obtaining box honey. The box hives I placed in an upright position, except one or two that I laid on the side.

The movable-comb hives I placed in an upright position with the caps off, and put the straw on the frames. Before I put them in the pits I depopulated seventeen (17) of them, according to Mr. Hosmer's plan. I buried the thirty stocks with the full expectation that I would take out thirty all right in the spring; but during the winter I became somewhat uneasy about them — perhaps occasioned by something I had read — and wrote to Mr. Hosmer and told him how I had managed my bees, and asked him what he thought about them. In reply he said, They are, in my opinion, all right. I then rested easy about them until I took them out in March, when, to my sad disappointment, I found seven stocks dead; the other twenty-three varied from a handfull of live bees to a full stock in good condition. Of the seven that were dead, some of them were very wet, while others were dry as dust. The stocks that were depopulated came through by far the best, on an average, though one box hive lying on its side, came through best of all, and it was the only one that I considered in first-class condition. Quite a number of them that were not depopulated were nearly destroyed by the moth-worms, it being warm enough in the pits to keep them breeding all winter.

Almost immediately after I got my bees out of the pits they began dwindling away, and I kept losing and doubling up stocks, until the honey season came on, when I had but five stocks left, all in the Star movable-comb hives — having transferred my box hives — but two of which got strong enough to swarm that summer. I then depended on natural swarming, which is a thing of the past with me now. I now have mostly Italians, and get large yields of honey and a good increase of stocks, and consider them far superior to the native bees. S. K. MARSH.

Ionia co., Mich.

For the American Bee Journal.

What is Honey?

In the November number of THE AMERICAN BEE JOURNAL, page 262, Mr. Fotheringham differs with me in regard to honey. Our apparent difference of opinion is only a misconstruction of the sentence. I agree with him that honey is a saccharine matter to which is added certain substances, whose flavor indicates from what it is derived. Hence, we may say: All saccharine matter that has passed through the sac of the bee, is honey; but the quality is determined solely by the source from which it is derived. We have, therefore, white clover, white sage, fruit blossom, locust, buckwheat, catnip honey, etc. White clover honey, because the saccharine matter was collected by the bees from white clover blossoms, and so of the other varieties.

If we feed our bees with sugar syrup and they deposit it in their cells, that deposit might be called honey, also; because it passed through the honey sac of the bee, and had imparted to it the acid peculiar to honey. We should perhaps call it "cane sugar honey." But I claim that it is not as good as white clover honey. Were I to buy it, I should only pay the lowest figure for it.

We cultivate a taste for a certain kind of coffee or tea, and I suppose the same rule holds good in regard to honey. In our white clover country, for instance, I find that white clover honey is the article preferred, while I am told by friends that in Michigan, Wisconsin, Iowa and Minnesota, bass-wood honey has the best reputation there.

I think it was the Rev. L. L. Langstroth, our teacher and benefactor, who first advanced the idea that bee poison produced colic in some persons. This bee poison is seen on the stinger of every bee when irritated, snd shines still, on the comb, after the stinger has disappeared. If introduced into our skin it produces swelling; and if eaten, although in a dry state and unobserved, it produces colic. This poison, drying up on the comb and adhering to it, is very likely the cause why persons are not so affected when eating machine-extracted honey. It is generally hard to persuade a person, once prejudiced to the use of honey, to give the matter a fair test. But in several instances where this matter came under my observation, I found it correct.

Many of my friends, when offering honey, will assure me that their honey was well ripened and capped before extracted. To all such I say, that when I buy their honey, it matters not whether it was capped or ripened before extracted or not. It is of much more importance to know that the honey is clover, buckwheat or bass-wood honey, or whatever else it

may be. To keep each kind by itself, is the principal thing in my estimation, and this cannot generally be done by waiting until the honey is capped. Ripening, as Novice calls it, is better done in an open vessel than in the bee hive.

Cincinnati, Ohio. CHAS. F. MUTH.

For the American Bee Journal.

Comb Foundations.

THOS. G. NEWMAN:—On page 261 of this month's Journal appears a communication signed "B. Lunderer." In reply to which I send you a letter giving the experience of a bee keeper. I have other letters agreeing exactly with Mr. Gardner and in direct contradiction to your correspondent's experience. JOHN LONG.

MR. LONG:—Since writing you, we have had a good yield of honey from the *Aster*, and I have given your foundations a trial in some of my strongest colonies, and although bees at this season of the year are not disposed to build comb, nor even to lengthening out partially-built ones, owing, I suppose, to the cool nights, yet I find that they have built out the cells on the foundations to nearly the full length, and have also in several instances extended the comb to near the bottom bar of the frame, *without one drone cell.* This of itself is one great advantage, as a great many colonies are prone to build drone comb at all seasons of the year, and thus ruin the stock, as they soon have too few workers to store more than the drones will consume.

J. R. GARDNER.

Christiansburg, Va., Oct. 14, 1875.

Voices from among the Hives.

WARREN CO., OHIO.—NOV. 12, 1875.—"I have 140 stands of Italian bees. Have kept bees for 50 years. I am well pleased with the JOURNAL and could not well do without it." JEREMIAH WOOD.

BUTLER CO., IOWA.—"I have done well with my bees. I wintered ten swarms; they came out well and increased to twenty-two; I have taken from them 350 lbs of extracted honey."

E. EIKENBERRY.

LA PORTE CO., UTAH.—Oct. 29, 1875.—"Three years ago I started with one colony of Italians, and divided twice the first year, once the second, and was left with one colony every spring. I doubled my hive this year, and took but two cards of honey from the two hives, so as not to rob them. They have increased their number four times, at least, and the hives are full of honey and brood."

MRS. H. MADSEN.

VERONA, LEE CO., MISS.—Nov. 6, 1875.—"I see in last number of BEE JOURNAL, that W. J. Andrews sent $1.00 to Adair and cannot hear from him. In April 1874, I sent him $7.50 by registered letter. I got his return receipt for the letter. I have written to him repeatedly since, and have never heard from him since.

T. W. JOHNSON.

SANTA ROSA, CAL.—Oct. 31, 1875.—"I was glad to see the report of P. H. Bohart. I sold him one-half of my bees before leaving Mo. There are but few bees kept in this county, and I think I shall return to Mo., in the spring. If any one has a good home in the States, he should remain there." JOHN SHEERER.

KAUFFMAN CO., TEXAS.—Nov. 15, 1875.—"I had poor success this year, did not average one swarm to the hive, and only about 15 lbs of honey. Honey locust, wild plum, and horse mint are the three best honey plants here. The first two bloom in early spring, and last about three weeks—the other in summer when other flowers are scarce, and continue about six weeks." A. H. R. BRYANT.

CEDAR CO., MO.—Oct. 30, 1875.—"Last spring I commenced with two Italian colonies, bought from E. Liston, Virgil City, and nine others in box and log gums. I transferred the nine with success, and increased to twenty-five—three natural and eleven artificial swarms. I extracted 2,000 lbs. Having purchased five more colonies, I have now thirty, all in good condition." J. F. LYNN.

LEBANON, IND.—Nov. 10, 1875.—"The friend of bee-keepers for this month, has arrived. I find its pages full of valuable information both for novices and vetrans in apiculture. I commenced bee-keeping in the season of 1871. The first year I had one colony affected with dysentery. The next year I increased to 14 and lost all but one in wintering. In 1873 I increased that one to nine and wintered all safely. In 1874, I increased to 16, and lost all but two with dysentery. This spring I increased to three, but can report no success till Aug. 15th. Take all the time, I have had about enough surplus to keep even with expenses."

M. L. HOLLINGSWORTH.

MARSHALLTOWN, IOWA.—Nov. 1, 1875.—"I put nine stands of bees in the cellar in the fall of 1874; three died before spring; four more before flowers came. I bought two more in spring and one of those died, leaving three when flowers came, with plenty of comb and considerable honey, all the stands leaving some honey. I divided the three till I have eleven, using the old comb and honey. This fall I have fed the eleven, 100 lbs coffee A sugar, and think they are strong enough in bees and stores to winter. I

have watched our groceries for box or extracted honey and have talked with many of the bee-keepers of this county, and I don't believe it will average one pound of surplus honey to the stand, take the county through—the bee business certainly has not been encouraging to beginners, here." O. B. BARROWS.

NEWBURG, N. Y.—Nov. 17, 1875.—"One year ago last Spring I commenced to keep bees. Bought two box hives with black bees; one a good one, in an old rickety box hive, having plenty of bees and white comb, the other almost worthless; they both swarmed. One made 25 lbs of box honey, the other about 12 lbs. During the summer I received 18 hives on shares, in all kinds of hives. Seven were Italians, the rest hybrids and blacks. I put them all in celler but two, on December 1st. Took them out April 1st. All wintered first-rate and it seemed as though they had not consumed 10 lbs each. I cleaned out each hive as I set them out, before they got warmed up, and had no trouble in doing it. I fed some rye flour, but they would not take much of it; I did not feed any honey or syrup. I lost five hives during April and May.

"The two wintered out-of-doors was so large I could not get them into the cellar; one of these the mice destroyed, the other came out first-rate though it has not swarmed or made a pound of surplus honey. They were well prepared for winter, by opening the holes on top and putting a stick across; over these I put a thick carpet, on the carpet was six inches or more of waste hair that I got from the Brush Factory, and over all, thick paper well pressed down. Hair is a much better thing than husks or bran, as it is always dry and retains the heat. Those that wish to winter out-of-doors should try it; they would never use anything that retains moisture again.

"My bees commenced to swarm June 14th, not one-half of them have swarmed. I have now 24 good, large swarms in good shape for winter; made one artificial swarm and one nucleus. One of black bees, in my new kind of hive, has made about 70 lbs of box honey; one Italian, in Langstroth hive, about 60 lbs, and one 40 lbs, and so on down to nothing; some neither swarmed or made a pound of honey. I had, on June 1st, 17 hives and one of them queenless; I gave them brood twice and saved them. I have about 320 lbs from all together in four lb boxes, which I sell at 30 cents per lb, and all is sold but 28 lbs, and that will soon be. I have a Novice Extractor, but have not used it yet and do not think I will much, as box honey sells much the best.

"The principal source of honey in this section, is apple blossoms, locust and white clover. We have no bass-wood and only a few tulip trees, about one mile off.

"Last winter killed off about all in this section. One man had 40 hives, wintered on their summer stands, and lost every one; and others lost nearly all. These people usually get a few pounds of mussed honey, as I call it, by killing their bees in the fall, and they hardly believe it when I tell them I got 70 lbs in boxes from one hive, in as poor a season as this.

"I think you have struck the key note, when you requested bee-keepers to report the honey-producing plants, etc. It is a great pleasure to read how others have done, even if we cannot do as well ourselves." M. D. DUBOIS.

HENDERSON CO., N. C.—Nov. 9, 1875.—"Bees commenced to gather pollen Feb. 26th, from the *alder;* the fruit trees bloomed out early, but were all killed. We had a late, cold, backward spring and large numbers of hives that went safe through the winter, died before they could get honey to save them. My first swarm was on the 22nd of April, which swarm, gave me 64 lbs of surplus honey in the comb and filled a Quinby hive. I furnished them three sheets of comb; the hive they came out of gave me four natural swarms, and they are all in a good condition to go through the winter. That hive and its increase gave me 90 lbs of honey, and four good hives. I had under my charge 25 hives of bees, most of them weak, some of them (four hives) had just built up strong enough to go through the winter. Six I had to unite with others. Seven swarms went to the woods; six of them were two miles from me; I now have 40 hives in good condition to go through the winter. We had a killing frost on the 18th of May that killed most of the tulip blooms, black gum and wild cherry.

"The three best honey-producing trees are the tulip tree, red sumac and sourwood. The tulip commences to bloom about May 18th, and continues three weeks; the red sumac commences the last days of June or first of July, and about the time it is in full bloom the sourwood commences; the sumac is in bloom about 10 days and the honey is so plenty on them that it looks like a small swarm of bees settled on it.

"The sourwood commenced to bloom this year July 3d, and lasted 26 days, from which we always get most of our surplus honey. These trees grow readily from seed, or by transplanting; the golden rods and asters have done better this fall than I ever knew them to do before. On the 23d of September, the bees for one hour and a half brought in honey far ahead of anything I ever saw before, it was like a swarm returning. We had a killing frost on the 25th of Sept.; bees carried in the last pollen on Oct. 23d."

ROBERT T. JONES.